



Catalogue of Research Groups from Moldova

Academy of Sciences of Moldova

2015

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This project is supported by the European Commission under the Financial support to the participation of the Republic of Moldova in the EU programme Horizon 2020 action
GA: 2014/346-992
www.h2020.md



Moldovan Science towards the European Research Area

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CATALOGUE OF RESEARCH
GROUPS FROM MOLDOVA

Academy of Sciences of Moldova
Center of International Projects
2015



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FOREWORD

Dear readers,

Beginning from 2014 the Republic of Moldova obtained the status of the associated country to the Horizon 2020 - The Framework Programme for Research and Innovation, technological development and demonstration activities (H2020), which is the main instrument for funding of research in Europe.

This allowed Moldovan scientists, research institutes, universities and companies to collaborate with their counterparts across Europe in key research areas, while strengthening their own research expertise and capacity. In practice they compete for research funding on an equal footing with counterparts in EU Member States.

The Catalogue of Research Groups from Moldova, offered to your attention, has main purpose to increase their visibility abroad, to foster creation of international partnerships which could contribute to the integration of the national R&D system into the European Research Area through the FP7 and HORIZON 2020 programmes, as well as in strengthening industry-academia partnerships.

I would like to express special thanks to the H2020 National Contact Points (NCP) and the Center of International Projects of the Academy of Sciences of Moldova – the NCP Host Institution for their contribution to the Catalogue development.

Acad. Gheorghe DUCA

President of the Academy of Sciences of Moldova





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The Academy of Sciences of Moldova (ASM), is the sole public agency of national significance in the field of science and innovation, is the plenipotentiary coordinator of scientific and innovation activity, the supreme scientific forum of the country and scientific consultant to the public authorities of the Republic of Moldova.

ASM activity is based on:

I. The Code on Science and Innovation of the Republic of Moldova adopted on July 2004 as main legal act, which regulated the activities in the Area of Science and Technology development.

II. The Partnership Agreement between the Academy and the Government of the Republic of Moldova, which authorize the Academy to distribute science-destined funds on the competitive basis within the Strategic Science and Innovation priorities approved by the Government RM:

- Consolidation of the State of Law and utilization of cultural heritage with the perspective of integration into multicultural and multinational Europe;
- Economical basis of sustainable development and efficient utilization of human and natural resources;
- Biomedicine and human health;
- Agriculture and industrial biotechnology;
- Nanotechnology, new materials and informational technologies;
- Energetic security and efficiency growth of the energetic complex.

III. Strategy for Research and Innovation Development-2020, which is focused on the strengthening of the innovation aspect, development of international collaboration and contribution to the societal challenges in R&D sector in Moldova.

ASM is nominated by the Government RM as responsible institution for the association to the EU H2020 Framework Programme and implementation of the Associated Country Status.

Experience in participation in FP7:

- FP7-INCO-2010-6, Project 266515 "Preparation for Moldova's integration into the European Research Area and into the Community R&D Framework Programs on the basis of scientific excellence – MOLD-ERA".
- FP7 IncoNet EECA No. 212226 "S&T International Cooperation Network for Eastern European and Central Asian Countries".
- FP7 BS-ERA.NET No. 226160 "Networking on Science and Technology in the Black Sea Region".
- FP7 SEERA-EI No. 228052 "South East European Research Area for eInfrastructures".
- FP7 IncoNet CA/SC No. 244417 "International Cooperation Network for Central Asian and South Caucasus Countries".
- FP7 EECAlink No. 223359 "Promotion and facilitation of international cooperation with Eastern European and Central Asian countries".

Academy of Sciences of Moldova has up to 47 organizations in sphere of science and innovations, which include: 19 institutional members, 26 profile members and 2 affiliated members and several auxiliary institutions such as: Center of International Projects, Agency for innovation and Technology Transfer, Center for Fundamental and Applied Research Funding, Consultative Expertise Council.



The Center of International Projects (CIP) is an auxiliary public institution of the Academy of Sciences of Moldova (ASM), which promotes and manages bilateral and multilateral programs in science and innovation launched within Cooperation Agreements between ASM and various international organizations and foundations. Since its inception, CIP has managed around 250 bilateral projects under Cooperation Agreements with the following organizations: Russian Fund for Basic Research; Russian Fund for Humanitarian Research; Byelorussian Republican Fund for Basic Research; Ministry of Education and Science of Ukraine; Federal Ministry of Education and Research of Germany; National Authority for Scientific Research of Romania; National Council for Research of Italy.

CIP provides managerial, technical, financial and legal assistance to members of Moldovan scientific community, as well as for Moldovan Diaspora members, including consulting activities, seminars, trainings and other activities in the framework of international and bilateral projects.

During 2010-2012 CIP in closed cooperation with the International Organization for Migration and Department of the European Integration and International Cooperation of ASM supported temporary return of 31 Moldovan Scientific Diaspora members in order to extend Moldova's capacity in increasing the impact of circular migration on the development of R&D sector. This activity is organized within the program: Temporary return of representatives of the Moldovan Scientific Diaspora, as part of the EU project "Supporting the implementation of the migration and development component of the EU-Moldova Mobility Partnership".

During 2010-2014, CIP is officially nominated as:

- The Host Organization of the Moldovan FP7/H2020 National Contact Points Network to support and coordinate its activities as a whole structure;
- Responsible for assurance of participation the Official Representatives and National Experts in the FP7/H2020 Programme Committees;
- Support Organization concerning the activity of Representatives of the Academy of Sciences of Moldova in the European Institutions in Brussels within the Moldovan Office for Science and Technology.

CIP is involved in realization of several projects such as:

- PICTURE – "Policy dialogue in ICT to an Upper level for Reinforced EU-EECA Cooperation";
- MORE4U-2013- Researcher's Night event in Moldova, FP7-PEOPLE-2013-NIGHT;
- ERANET-RUS-PLUS – Further Linking Russia to the ERA: Coordination of MS/ AC S&T programmes towards and with Russia;
- MoNetAxess – Set-up EURAXESS Services Network in Moldova;
- INCO.NET-EAP – STI International Cooperation Network for EAP countries for the Eastern Partnership region;
- DANUBE-INCO.NET – International Cooperation Network for the Danube Region;
- EAST-HORIZON – Fostering Dialogue and Cooperation between the EU and EECA in the HORIZON 2020 perspective;
- EECA-2-HORIZON – Bringing the EU-EECA cooperation and policy dialogue in ICT in the HORIZON 2020 ERA.
- BLACK SEA HORIZON – Enhanced bi-regional STI cooperation between the EU and the Black Sea Region;
- WaterWorks2014 – Water Works 2014-2019 in Support of the Water JPI;
- NCPs CaRE - National Contact Points for Climate action, Raw materials, Environment and Resource Efficiency.

CIP is involved in carrying out some activities related to the organization of Pilot Joint Calls within SEERA-EI, Black-Sea ERANET and ERA.Net RUS Plus projects and projects funded within this activity. CIP staff has experience of managing of SCOPES projects and others.

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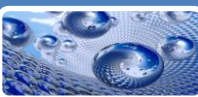
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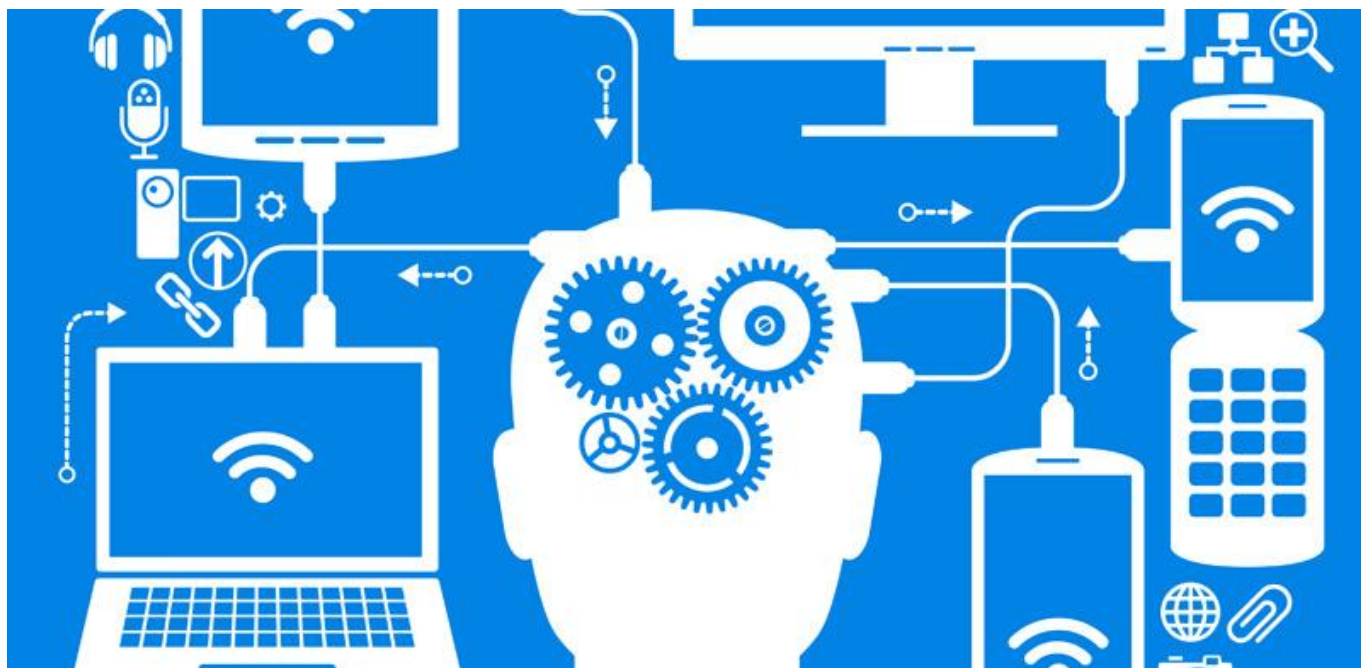


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INFORMATION AND COMMUNICATIONS TECHNOLOGY

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INSTITUTE OF MATHEMATICS AND COMPUTER SCIENCE

Organization contact data:

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Website	www.math.md

Title and name of the contact person; position:

Director	Dr. hab. Svetlana COJOCARU
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Institute was formed in 1964. The main objectives: to maintain existing research domains, to develop new directions in line with the Republic of Moldova needs, to integrate into the world science, to train highly qualified specialists. The Institute consists of 5 laboratories: Laboratory of Algebra and Topology, Laboratory of Differential Equations, Laboratory of Mathematical Modelling, Laboratory of Programming Systems and Laboratory of Information Systems. Research efforts of Institute are concentrated in the following fields: Topological algebra; Rings, modules and categories; Theory of radicals in rings and modules; Quasigroups theory and its applications in code theory and cryptography; Mathematical logic; Geometry; Theory of algebraic invariants of the differential equations systems; Partial differential equations; Game theory and discrete optimal control; Numerical analysis; Probability theory; Formal models of computation; Natural language processing; Decision support systems.

Tools for modelling of underground gas storage and influence of seismic waves and shocks have been developed. The significant results related to the universality of formal computing models have been obtained. A database with linguistic reusable resources for Romanian language has been developed.

The informational tools for assistance of ultrasonographic examinations have been developed.

The new technologies for expert knowledge acquiring, formalizing, storage and management have been developed.

A methodology of services and resources distribution in heterogeneous networks, assured by the development of various types of networking systems using advanced information and communication technologies, has been proposed.

A scheme of optimal services providers distribution in network nodes, and the system of servers which offers services for heterogeneous networks have been developed.

Middleware properties referred to distributed computing infrastructure functioning (Grid computing) were studied, and proposals to achieve modernization of software for interfaces implementation (gateways) between different variants of middleware have been elaborated.

Expertise / Competences / Technologies / RTD know-how:

Information Processing:

- Data Warehousing.
- User Interfaces.
- Image Processing.
- Simulation.

Networks, Communications and Systems:

- Parallel computing (GRID technologies and infrastructure).

Software and Services (Applied ICT):

- Knowledge Management.
- Web Service Technologies.
- eHealth.
- Bio-informatics.



Cognitive Systems and Robotics:

- Human-machine Interfaces.

International cooperation experience:

- Project INTAS No. 97–1259 Frontier and limitations in the Computer Science: Formal models of computers and computations, 1998–2001.
- Project INTAS No. 99–01782 Nonlinear Evolution Equations and Dynamical Systems, 2000–2002.
- Project INTAS No. 05–104–7633 RoLTech. Platform for Romanian Language Technology: resources, tools and interfaces, 2006–2008.
- Project INTAS No. 05–104–7553 Interface generating toolkit for symbolic computation systems, 2006–2008.
- Project NATO PST.CLG.976912 Basics of Molecular Computing, 2000–2003.
- Project NATO ARW.980392 Public Diplomacy Division, Science Programme Advanced Research Workshop: Computational commutative and non-commutative algebraic geometry, 2004.
- Swedish Royal Academy of Sciences Grant No. 1502 Computational homological algebra, 1997–2000.
- Swedish Royal Academy of Sciences Grant No. 12642 Noncommutative interactive computer algebra and its applications, 2001–2003.
- Swedish Royal Academy of Sciences Grant No. 1023505 Generalized Groebner basis calculation and algebraic applications, 2003–2006.
- Swedish Royal Academy of Sciences Grant No. FDS 06–127 Non-commutative applications of Computer Algebra Systems, 2007.
- Project AUPELF–UREF Ref/99/PAS/09 Algebraic–geometrical methods and formal calculus in the study of dynamical systems, 1999–2000.
- Project STCU 4032 Power and efficiency of natural computing: neural-like P (membrane) systems, 2007–2010.
- Project STCU 4035 Informational tools for assistance of sonographic examinations, 2007–2010.
- Project STCU 4624 Computer monitoring technology for operational state and accidental risk of poison–fluid and petroleum depots, 2009–2011.
- Project FP5, European Commission IST–2001–32008 MolCoNet–A Thematic network on Molecular Computing, 2000–2004.
- Project FP6, European Commission, Marie Curie Incoming International Fellowship program MIF1–CT–2006–021666 MolCIP: Molecular Computing and Intractable Problems, 01.06.2007–31.05.2009.
- Project FP7, European Commission 211338 High Performance Computing Infrastructure for South East Europe's Research Communities (HP–SEE), 2010–2012.
- UNDP Moldova Project MOL/03/004 Connectivity and public access to the Information Society technologies at the community level (on the basis of models of public–private partnership and successful practices of local governance), 16.02.2004–16.04.2004.
- UNDP Moldova Project MOL/03/004 Electronic Services in Public Administration (e–governance).
- Privacy and Freedom of Information, 16.02.2004–16.04.2004.
- Project in the framework of collaboration Moldova–Russia 06.01.CRF Multidimensional integrable nonlinear systems and their geometrical properties, 2006–2007.
- Project in the framework of collaboration Moldova–Russia 06.02.CRF Theoretical research and numerical modelling of the instability and dissipative processes in the stars collapse and the nonstationar streams in the gravitational fields, 2006–2007.
- Project in the framework of collaboration Moldova–Russia 06.44 CRF Analyzing and elaborating of the expectation cyclic models with the priorities and no homogenous stations and using its for regional wireless network design for the data, voice and video information transportation, 2006–2007.
- Project in the framework of collaboration Moldova–Russia 08.820.08.12RF Topological and differential algebra, 2008–2009.
- Project in the framework of collaboration Moldova–Russia 08.820.06.40RF Numerical modelling of the astrophysics' problems related to non stationary multidimensional gravitational magnetic dynamics of gases, 2008–2009.
- Project in the framework of collaboration Moldova–Russia 08.820.08.07RF Multidimensional integrable nonlinear equations, dynamical systems and their geometrical properties, 2008–2009.



- Project in the framework of collaboration Moldova–Russia 08.820.08.05RF Methods and algorithms for solving of the control problems of the dynamic complex systems, 2008–2009.
- Project in the framework of collaboration Moldova–Russia 08.820.08.09RF Methods and algorithms elaboration for multimedia information transportation protocol investigation in the fireless network without thread with centralized control, 2008–2009.
- Project in the framework of collaboration Moldova–Russia 08.820.08.08RF New algorithms for electronic information certification and cryptographic schemes for secret protection, 2008–2009.
- Project in the framework of collaboration Moldova–Germany 09.820.08.03GF Decision support and algorithmic design on a multilayered grid structure within the communication network CENETIX, 2009.
- Project in the framework of collaboration Moldova–Germany 09.820.08.02GA Data Warehouse approach of standard reference images for computer–aided sonography of abdominal diseases (CASAD), 2009.
- Project in the framework of collaboration Moldova–Germany 09.820.08.01GF Analyzing and modelling of the data processing in the future network systems, 2009.
- Project in the framework of collaboration Moldova–Belarus 10.820.08.06 BF Analysis of priority queueing models in modern systems of information resources diversification, 2010–2011.
- Project in the framework of collaboration Moldova–Romania 10.820.08.04/RoA Information resources management and assistance in inter–academic scientific cooperation and in management of cooperation between the Academy of Sciences of Moldova and the Romanian Academy, 2010–2012.
- Project in the framework of collaboration Moldova–Romania 10.820.08.06/RoA Innovative methods for visualization and ultrasound investigation for medical purposes, 2010–2012.

Key words on core competencies:

Mathematical modelling; natural computing; natural language processing; knowledge engineering; decision support systems.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Future and Emerging Technologies ▪ European Research Council ▪ Marie Skłodowska-Curie actions ▪ Research infrastructures
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Twinning of research institutions ▪ Supporting access to international networks for excellent researchers and innovators
Other	<ul style="list-style-type: none"> ▪ Science with and for Society



INFORMATION SOCIETY DEVELOPMENT INSTITUTE

Organization contact data:

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Title and name of the contact person; position:

Director	Dr. Igor COJOCARU
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Information Society Development Institute is a research institute from the Republic of Moldova focused on research and applications for information society development. It was founded jointly by the Academy of Sciences of Moldova and Ministry of Information Technology and Communications. The Institute is ISO 9001, ISO 14001, OHSAS 18001 and ISO 27001 certified. In 2014 ISDI joined the European Charter and Code for Researchers. From 2013 ISDI is a member of NESSI and Net!Works European Technology Platforms and from 2014 - a member of MD-GRID Joint Research Unit Consortium.

Research profile: Scientific support and tools for information society development.

ISDI research priorities include:

- Information systems and technologies.
- ICT R&D policies for strengthening and developing information society.
- R&D systems.

Number of staff: 37 persons.

Achievements:

ISDI designed, developed and maintains "ACADEMICA" e-Infrastructure for research and innovation, that interconnects all institutions of the Academy of Sciences of Moldova since 2010 (<http://idsi.md/en/academica>).

Developed and maintains EXPERT online – Moldovan S&T Proposal Submission and Evaluation System (<http://expert.asm.md/en>).

Development of the National Bibliometric Tool IBN (<http://ibn.idsi.md/en>), which monitors the publication process and the articles published in national scientific journals.

Development of the Methodological Framework for evaluation of R&D projects and programs in the Republic of Moldova.

Experience in ICT and R&D policy making and development, including foresight studies.

Expertise / Competences / Technologies / RTD know-how:

- Analysis and design of ICT solutions for R&D management.
- Performance of Scientometrics, webometrics & altmetrics studies, with focus on the national R&D system.
- Monitoring information society indicators in the Republic of Moldova.
- Experience in ICT and R&D policy making and development, including foresight studies.

International cooperation experience:

- International Visegrad Fund - Discussion on Information Society Building Issues Platform (2015).
- Ideal-ist 2014 - Trans-national cooperation among ICT NCPs (FP7 project, 2010-2014).
- SEERA-EI – South East European Area for eInfrastructures (FP7 project, 2009-2012, involvement of ISDI experts and personnel).
- Risks affecting the transition from the information society towards the knowledge society. Foresight research on Romania and Republic of Moldova (bilateral project with Romania, 2010-2012).
- EXTEND - Extending ICT research co-operation between the European Union, Eastern Europe and the Southern Caucasus (FP7 project, 2009-2011, involvement of ISDI experts and personnel).
- Creation of unique information environment in GUAM community for remote training and technical and scientific cooperation (STCU project, 2009-2010).



Key words on core competencies

Information society technologies, e-infrastructure, scientometrics, ICT support & consultancy, digital content, ICT and R&D policies.

Horizon 2020 relevant call: area of interest

Excellent Science	<ul style="list-style-type: none">▪ Future and Emerging Technologies▪ Marie Skłodowska-Curie actions▪ Research infrastructures
Spreading excellence and widening participation	<ul style="list-style-type: none">▪ Twinning of research institutions
Other	<ul style="list-style-type: none">▪ Science with and for Society



LABORATORY OF MICRO-OPTOELECTRONICS, TECHNICAL UNIVERSITY OF MOLDOVA

Organization contact data:

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Title and name of the contact person; position:

Scientific Vice-Rector TUM	Prof.univ., dr.hab. Valerian DOROGAN
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Organization activity type:

Public body (Research organization/university/lab).

Brief description of the organization:

15 researchers and PhD students are involved in the main activity direction:

- Study of fundamental properties of semiconductor materials and determination of fundamental parameters by studying polariton excitons and electronic transitions, natural and induced birefringence, gyration and spatial dispersion at different temperatures.
- Study of semiconductor structures (InGaAsP, AlGaAs) used for manufacturing optic radiation emitters, photoreceivers and optic filters with ultra narrow bands.
- Study of laser diodes, photodiodes, optic amplifiers, splitters, microlenses, multiplexers and demultiplexers for fiber optic communication systems and determination of optimal exploitation regimes in different optoelectronic systems.
- Elaboration and manufacturing of devices and systems based on micro-optoelectronic devices with different applications in national economy (communications, medicine, environmental monitoring, mini-energetics, agriculture, etc.).
- Elaboration of technologies and methods for monitoring and guiding the above mentioned optoelectronic systems in order to improve the functionality and reliability.
- Training of young specialists by involving young engineers, PhDs, students and master degree students into research activities.
- Implementation of obtained results into national economy.

The team of researchers published 3 monographs, 26 articles in peer-reviewed journals and more than 80 abstracts at scientific forums in the last 5 years.

Expertise / Competences / Technologies / RTD know-how

- Optical Spectroscopy.
- Resonant Raman Scattering.
- Elaboration of micro-optoelectronic devices and modules.
- Characterization of laser diodes and photoreceivers.
- Elaboration of optoelectronic device modules for optic communication systems and renewable energy systems.

International cooperation experience

Participation in 7 international projects: FP7, SCOPES, bilateral with Ukraine, Belarus, Romania.

Key words on core competencies

Spectroscopy; resonant Raman scattering; laser diodes; photoreceivers; optoelectronic modules.

Horizon 2020 relevant call: area of interest

Excellent Science	▪ Future and Emerging Technologies
Industrial Leadership	▪ Innovation in SMEs
Societal Challenges	▪ Secure, clean and efficient energy ▪ Secure societies - Protecting freedom and security of Europe and its citizens
Spreading excellence and widening participation	▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions



**THE RESEARCH GROUP IN THE EXACT SCIENCES, ENGINEERING AND TECHNOLOGY,
STATE UNIVERSITY "B.P. HASDEU" FROM CAHUL**

Organization contact data:

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Title and name of the contact person; position:

Dean of the Faculty of Economics, Informatics and Mathematics	Dr. Svetlana BIRLEA
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Organization activity type:

Public body (Research organization/university/lab).

Brief description of the organization:

Department of Engineering and Applied Sciences at the State University "B. P. Hasdeu " from Cahul, in 2015, has 7 the didactic and scientific collaborators.

In the period 2009- 2014, by the didactic and scientific collaborators of the Department of Engineering and Applied Science have been published 31 scientific papers, of which:

- Monographs – 1.
- Articles in the national and international journals – 8.
- Materials of scientific communications – 21.
- Patents – 1.

Expertise / Competences / Technologies / RTD know-how:

Mechanical engineering, food engineering, information and communication technologies.

International cooperation experience:

Until now the Department of Engineering and Applied Science has not participated in international collaboration.

Key words on core competencies:

Mechanical engineering; food engineering; information and communication technologies; innovations; development.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Future and Emerging Technologies ▪ Marie Skłodowska-Curie actions ▪ Research infrastructures
Industrial Leadership	<ul style="list-style-type: none"> ▪ Leadership in enabling and industrial technologies (LEIT)
Societal Challenges	<ul style="list-style-type: none"> ▪ Food security, sustainable agriculture and forestry, marine and maritime and inland water research ▪ Secure, clean and efficient energy ▪ Smart, green and integrated transport ▪ Climate action, environment, resource efficiency and raw materials

SCIENTIFIC RESEARCH INSTITUTE ELIRI JOINT-STOCK COMPANY

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Website	www.eliri.md

Title and name of the contact person; position:

Head of the Laboratory	Dr. Anatolii IOISHER
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Organization activity type:

SME.

Brief description of the organization:

The Institute specializes in metrological instrument making (control gage, measuring instrument and imitator of electrical resistance, standard voltage dividers, installation for transformers verification); in information technology (elements of securities identifying, radioabsorbing protective fillers and materials); in measuring equipment (transducer-converter for measuring of non-electrical and electrical units, devices); in radioelectronics (custom hybrid integrated chips) and in other areas of instrument making.

The main directions of the scientific and technical activities include: research and elaboration of new types of microwires in glass isolation and filamentary nanocompositions; research and elaboration of new products based on them, technologic processes and equipment for goods production.

All elaborations of the institute end with production and delivery of elaborated elements, hybrid integrated chips and functional units, equipment, facilities and systems to customers, or with sending of the scientific and technological production to customers and with participation in organization of its production. The production is elaborated in accordance with the international standards.

The Institute received more than 500 certificates for inventions, more than 80 patents in the field of instrument making.

Expertise / Competences / Technologies / RTD know-how:

- Receiving of cast microwire in glass insulation and filiform nanostructures.
- Design and manufacture of non-electrical measuring sensors and transducers.
- Inductive micro sensors.
- High voltage dividers.

International cooperation experience:

Project on FP-7 #294953. (Support Action). Enhancing the capacities of the ELIRI Research Institute in applied research to enable the integration of Moldova in the European Research Area on the basis of scientific excellence. Proposal acronym: MOLD-NANONET. Period: 01.12.2011 - 31.05.2014.

Project on STCU # 5064. Elaboration of multicomponent filiform nanostructures for thermoelectrical applications. Period: 01.03.2010 - 28.02.2011.

Project on CRDF FSTM # MOE2-589-CH-05. Research and development of the multipurpose microprocessor device for parameters gauging and dynamic testing methods of milking equipment. Period: 01.03.2006 - 31.03.2008.

Project on CRDF NSTM # MO-E2-5022-CH-04. Research and development of compact high-performance anticlutter filters based on amorphous magnetic and coaxial glass-coated microwire. Period: 01.02.2004 - 31.03.2005.

Key words on core competencies:

Cast microwire; glass isolation; filiform nanostructure; inductive microsensor; high dividers; non-electrical quantities sensors.



Horizon 2020 relevant call: area of interest:

Excellent Science	▪ Future and Emerging Technologies
Industrial Leadership	▪ Innovation in SMEs
Societal Challenges	▪ Leadership in enabling and industrial technologies (LEIT) ▪ Secure societies - Protecting freedom and security of Europe and its citizens
Spreading excellence and widening participation	▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions



RESEARCH AND EDUCATIONAL NETWORKING ASSOCIATION OF MOLDOVA (RENAM)

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Website	www.renam.md

Title and name of the contact person; position:

Executive manager	Dr. Peter BOGATENCOV
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Organization activity type:

NGO, SME.

Brief description of the organization:

The Association "RENAM" (further Association "RENAM") is non-governmental, non-commercial and non-profit organization, established in the form of the public institution, carrying out its activities in conformity with the Constitution and the law of the Republic of Moldova, currently in force, according to the international norms and conventions, with its Statute, aimed at public benefit. The "RENAM"'s activities has as its principal purpose the constant development of communication and information infrastructure of the scientific and educational community, as well as governmental organizations in Moldova. RENAM activities are focused on creation of appropriate conditions for permanent National e-Infrastructure extension; co-ordination and support of National Grid Initiative and Grid infrastructure development; providing access to the national and foreign scientific informational and computational resources. RENAM Association has built and permanently develops National R&E networking infrastructure. All Institutes of Academy of Sciences, leading Universities of Moldova, colleges, some hospitals and governmental establishments are connected now to RENAM network access nodes. RENAM network offers connectivity to about 5000 scientists and professors (75% of all researchers), over 1000 Ph.D. students and more than 80,000 university and colleges students (85% of all students).

RENAM is coordinator of MD-GRID NGI created in a form of JRU that at present is uniting 11 research and educational entities that are involved in support and development of National Grid infrastructure and applications. Main fields of Grid activities in Moldova cover seismic, environment monitoring, meteorological forecast and high energy physics applications development. Grid infrastructure comprises at present three clusters installed in RENAM and MD-GRID NGI members' institutions. All Grid sites are integrated in RENAM network that at present has 10 Gbps connectivity via dark fiber link to GEANT through Romanian NREN RoEduNet. RENAM is involved in implementation of various eInfrastructure development projects in Moldova and at regional level. RENAM is partner and is engaged in implementation of series EC, NATO projects and other collaboration activities with partners from different European states and USA. RENAM successfully realized and now is participating in more than 30 international projects. Involvement of RENAM in European and regional e-Infrastructure development projects significantly contributed in forming modern networking infrastructure and providing wide range of informational services, creating strong NGI involved in the National Grid and HPC clusters infrastructures deployment and operation.

RENAM provides wide range of services such as optical, leased line and wireless connectivity; websites and databases creation and hosting; issuing digital certificates; access to specialized computational resources; certificated education and community members training.

Expertise / Competences / Technologies / RTD know-how:

RENAM has a 14-years' experience in development and adaptation of modern information and communication technologies, including the application of GRID and HPC technologies to support complex applications elaboration and appropriate execution frameworks deployment. The research team is engaged in creation and operational support of specialized communication infrastructures that dedicated to support of effective operation of distributed computing infrastructures and their securing; optimization of data processing technologies that using parallel architectures; new middleware deployment, developing and standardization; complex workflows monitoring and control in distributed computing structures. The specialists working in RENAM departments together with colleagues from IT departments of the other research and educational organizations – members of the Association and National Grid Initiative comprise the kernel of the team that providing services and support for users' communities of various national scientific computing infrastructures. They also are



responsible for computing infrastructure development planning, related national and international projects execution.

Relatively new area of activities is deal with deployment of federated cloud infrastructure at national level and its integration in the regional cloud infrastructures. These new computational resources used for hosting of the integrated distance learning informational system and providing unified access to many interested educational organizations.

RENAM team has expertise in creation of runtime environment to support parallel application execution on multicore processors and cluster systems, adaptation of software packages and open source platforms for running specific parallel applications.

RENAM staff participated in several projects related to the mentioned areas of activities (EU: SEE-GRID, SEE-GRID-SCI, EGI-Inspire, HP-SEE, Porta Optica Study, SEERA-EI, BSEC gEclipseGrid. Bilateral STCU: Instrumental support for complex applications porting to the regional HPC infrastructure. National: DICOM Network).

RENAM research groups permanently involved in training activities, educational and consulting support of national users' communities.

International cooperation experience:

NIG 982517 Silk NetAcad Alliance.

NIG 982338 [Creation of Infrastructure for CERTs in Belarus, Moldova, Ukraine and their Initial Operation.](#)

EAP.NIG 982702 [New RENAM-RoEduNet gateway based on CWDM technologies implementation.](#)

5807 [Instrumental support for complex applications porting to the regional HPC infrastructure" \(in cooperation with the State University of Moldova and the Institute of Mathematics and Computer Science of ASM\).](#)

2.3.1. 77580.343 MIC-ETC 2632, Nr. 48956/18.06.2013 [CULTure EXchange Platform \(CULTUR-EXP\).](#)

605243 [Multi-Gigabit European Research and Education Network and Associated Services \(GN3plus\).](#)

BSEC/PDF/0025/08.2012 ["Experimental Deployment of an Integrated Grid and Cloud Enabled Environment in BSEC Countries on the Base of g-Eclipse" \(BSEC gEclipseGrid\).](#)

Key words on core competencies:

Networking technologies; scientific computing; distributed computing; data processing optimization; network security; AAI; learning technologies; certified education.

Horizon 2020 relevant call: area of interest

Excellent Science	<ul style="list-style-type: none"> Future and Emerging Technologies
Industrial Leadership	<ul style="list-style-type: none"> Innovation in SMEs
Societal Challenges	<ul style="list-style-type: none"> Leadership in enabling and industrial technologies (LEIT) Secure societies - Protecting freedom and security of Europe and its citizens
Spreading excellence and widening participation	<ul style="list-style-type: none"> Teaming of excellent research institutions and low performing RDI regions Twinning of research institutions





HEALTH

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**LABORATORY OF CARDIAC EMERGENCIES AND ARRHYTHMIAS,
INSTITUTE OF CARDIOLOGY**

Organization contact data:

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Telephone	(+373-22) 25-61-02
Fax	(+373-22) 73-36-20
E-mail	aagrosu@gmail.com
Website	http://www.cardiologie.asm.md/

Title and name of the contact person; position:

Deputy-director of The Institute of Cardiology, Head of the Laboratory	Dr. hab. Aurel GROSU
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Stuff – 10 persons (3 senior, 7 junior researchers, 8 PhD); implication of nitric oxide in the pathogenesis of syncope; In patients with diabetes and those with impaired glucose tolerance was established a similar poor 5-year post acute myocardial infarction prognosis; the role of the oxidative stress, inflammation, endothelial dysfunction in the post acute myocardial infarction prognosis was demonstrated in patients with impaired glucose tolerance; We showed that in patients with atrial fibrillation Mini Mental State Examination test associated to CHA₂DS₂-VASc score identifies subjects with silent strokes who need an adequate oral anticoagulation which improve their outcomes.

International cooperation experience:

Projects:

- A phase 2 randomized parallel group multicenter multi-national study for the evaluation of safety of four fixed dose regimens of DU-176b in subjects with non-valvular atrial fibrillation, 2007.
- A double-blind, randomized, parallel, placebo-controlled study examining the effect of cross-linked polyelectrolyte in heart failure patients with chronic kidney disease, 2010.

Key words on core competencies:

Myocardial infarction; arrhythmias; pre-diabetes; anticoagulation treatment; syncope.

Horizon 2020 relevant call: area of interest:

Societal Challenges	▪ Health, demographic change and wellbeing
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SCIENTIFIC LABORATORY "INTERVENTIONAL CARDIOLOGY", INSTITUTE OF CARDIOLOGY

Organization contact data:

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Title and name of the contact person; position:

Head of the Laboratory	Dr. hab., acad. Mihail POPOVICI
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Staff of laboratory consists of 12 scientific researchers and 2 technical assistances. For the last 5 years have been achieved data concerning main predictors of the in-stent restenosis as well as some key mechanisms of the neointima hyperplasia evolution after PCI. Likewise, more then 40 scientific works have been published including communications on European and World Congress of Cardiology.

Expertise / Competences / Technologies / RTD know-how:

Primary coronary revascularization thereby of angioplasty and the in-stent restenosis correction. Angiography, IVUS, OCT.

International cooperation experience:

Sawa Kostin, Max Planck Institute for Heart and Lung Research, Germany.

Mihail Todiras, Max-Delbrück-Center for Molecular Medicine, Berlin.

Key words on core competencies:

PCI; in-stent restenosis; predictors; mechanisms.

Horizon 2020 relevant call: area of interest:

Excellent Science	▪ European Research Council
Industrial Leadership	▪ Leadership in enabling and industrial technologies (LEIT)
Societal challenges	▪ Health, demographic change and wellbeing
Spreading excellence and widening participation	▪ Twinning of research institutions
Other	▪ Science with and for Society



SCIENTIFIC LABORATORY OF ARTERIAL HYPERTENSION, INSTITUTE OF CARDIOLOGY

Organization contact data:

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E-mail	alexandrucardio@yahoo.com, liubapopes2@yahoo.com
Website	www.cardiologie.asm.md/

Title and name of the contact person; position:

Laboratory Staff	Dr. Alexandru CARAUS Liuba POPESCU Angela BATCA Nadejda SAPOJNIC Anatolie TAMBALARI
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Department of Hypertension was founded on 1991. We have realized 8 scientific projects, which of the results were published in the important journals with impact factor, we have two patents of invention and a lot of presentations on the World Congress, European and Romanian Congress. The last research achievements were:

- 1) Therapy with valsartan, eprosartan or losartan in hypertensive patients with diastolic dysfunction improved diastolic indices after 24 months of treatment and was associated with a greater decrease of SBP and NT-proBNP levels in the eprosartan group;
- 2) ARB therapies improved diastolic reserve dysfunction in heart failure with preserved ejection fraction and better and early results were obtained in the Eprosartan group;
- 3) The results of the researches underlined the importance of systemic arterial stiffness (large and resistive arteries) and of microalbuminuria which have been identified as being the most important pathophysiological determinants of essential hypertension and improve prognosis for patients with hypertension on long term treatment with Eprosartan.

Expertise / Competences / Technologies / RTD know-how

We have a lot of experience in the screening of secondary forms of arterial hypertension, in the detection of malignant forms of hypertension, therapeutic schemas in the treatment of hypertensive diastolic dysfunction, we assessed the therapeutic effects of different antihypertensive agents on brain natriuretic peptide levels (BNP or NT-proBNP, antihypertensive treatment in the elderly hypertensive patients, pregnancy.

Key words on core competencies

Arterial hypertension; diastolic dysfunction; angiotensin receptors antagonists; brain natriuretic peptide.

Horizon 2020 relevant call: area of interest

Societal challenges	<ul style="list-style-type: none"> Health, demographic change and wellbeing
Spreading excellence and widening participation	<ul style="list-style-type: none"> Twinning of research institutions Teaming of excellent research institutions and low performing RDI regions



**INSTITUTE OF PHYSIOLOGY AND SANOCREATOLOGY
OF THE ACADEMY OF SCIENCES OF MOLDOVA**

1. **Laboratory of Physiology of Stress, Adaptation and General Sanocreatology**
2. **Laboratory of Neurosanocreatology**
3. **Laboratory of Sanocreatological Food and Digestion**
4. **Laboratory of Psychosomatic Interrelations**
5. **Laboratory of Cryosanocreatology „V. Nauc”**

Organization contact data:

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Fax	(+373-22) 73-71-42
E-mail	aglijin@yahoo.com
Website	www.ifs.asm.md

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Title and name of the contact person; position:

Head of the Laboratory of Neurosanocreatology	Dr. Eugeniu STIRBU
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Institute of Physiology and Sanocreatology of the Academy of Sciences of Moldova is a key scientific institution of the Republic in the field of physiology, sanocreatology and biomedicine. It was founded in 1998 on the basis of the Institute of Physiology of the ASM.

The main objective of the institute is focused on the development of Sanocreatology – a new direction in medicine. The task of Sanocreatology is the elaboration of the theory and the practice of the purposeful formation and maintenance of health of the vitally important organs, systems and the whole organism not only of separate individuals, but also of whole human populations in accordance with the way of life, the constantly changing environmental factors and the conditions of activity. The main research directions are:

- Mechanisms of purposeful formation, maintaining and strengthening of somatic and mental health;
- Sanocreatology development.

Nowadays, the Institute of Physiology and Sanocreatology disposes of highly qualified personnel, including two Full Members (academicians), 9 Doctors Habilitate and 25 Doctors (PhD) in biology, medicine or psychology.

The most important elaborations and obtained results by the Institute of Physiology and Sanocreatology of the ASM are:

- The unraveled mechanism and redefined concept of the stress development;
- A description of the role of stressful factors in the pathogenesis of various diseases and elaborated methods of attenuation and correction of the negative results of the excessive stress;
- The elaboration of the principles of the healthy mode of life;
- The explanation of the phenomenon of human organism's precocious degradation in the modern conditions of life;
- A creation and improvement of a new direction in biomedicine – sanocreatology, focused on the developing of the theory and practice of purposeful formation and maintenance of human health in accordance with lifestyle and environmental conditions;
- A new conception on the phenomenon of health as a starting-point of Sanocreatology;
- The scientific bases of realization of the tasks of Sanocreatology implying the purposeful impact the various systems of life insurance in the process of ontogenesis (from the making of gametes to the last periods of life activity);
- A new conception of the Mental health;
- Characteristics and description of different level of the Mental health;
- The identification of the evolution's determinative factors and the factors casing human ontogenesis;
- The disclosure of causes underlying the high level of the population mobility and the human precocious general biological degradation;



- The classification of the levels of health of the heart and the respiratory system and the tests of their determination;
- The sanocreatological theory of nutrition aiming to ensure the human organism's health;
- The principal stages of the human embryo's and the fetus's morphofunctional development including the critical stages; the methods of purposeful enhancement of the health.

Expertise / Competences / Technologies / RTD know-how:

Academician Teodor Furdui is a president of the Unified Experts Commission in medical and biological sciences, veterinary medicine.

Doctor in biology, associate professor Valentina Ciochina is an expert in a National Expert Commission in Biology field.

Doctor in biology Valeria Vrabie is an expert in a National Projects Expert Commission from the Academy of Sciences of Moldova in Biology field.

The Institute of Physiology and Sanocreatology of the Academy of Sciences of Moldova is the founder and promoter of a new direction in biomedicine - Sanocreatology and Mental Health Sanocreatology.

International cooperation experience:

The Institute of Physiology and Sanocreatology was involved in realization of two international projects:

- Equipment for the elaboration of the methods of health assessment and the study of the mechanisms of the formation and the maintenance of health, offered by CRDF/MRDA.
- The NMR and chromatographic metabolic profiles of some body fluids and the food intake influence on the urine profile (METABOLOM), bilateral project (Republic of Moldova - Romania), offered by Academy of Sciences of Moldova and the National Research Council from Romania.

Key words on core competencies:

Sanocreatology; human physiology; health; mental health; biomedicine.

Horizon 2020 relevant call: area of interest

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions
Societal challenges	<ul style="list-style-type: none"> ▪ Health, demographic change and wellbeing ▪ Food security, sustainable agriculture and forestry, marine and maritime and inland water research
Other	<ul style="list-style-type: none"> ▪ Science with and for Society



STATE MEDICAL AND PHARMACEUTICAL UNIVERSITY "N. TESTEMITANU"

Organization contact data:

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Telephone	(+373-22) 24-34-08
Fax	(+373-22) 24-23-44
E-mail	rector@usmf.md ; prorectorinternationale@usmf.md
Website	www.usmf.md

Title and name of the contact person; position:

Dean	Dr. hab. Ion ABABII
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Staff: eight researchers, two technicians.

Capacity: CO2 Incubators (2005, 2009); Centrifuges HITECH– refrigerator (2005, 1988); Laminar flow cabinet (2005); Microscopes (2006); Bidistilator (2006); Phase–Contrast Microscope (2006); Thermostats 3 (1984); Sterilizer 2 (1990); Inverted Microscope OLIMPUS (1988); Lyophilizator (2008); Equipped Surgery rooms for experimental animals.

Methods of Research: cytology, histology, histochemistry, immunohistochemistry, immunology, cytogenetic, bacteriology, Radiology, CT, SEM, etc.

There is Ethical Resaerch Committee approval for experimental research on animals.The SMPPhU has Animal care facilities.

Expertise / Competences / Technologies / RTD know-how

- Autologous mesenchymal stem cells.
- New methods of stimulation of the tissue regeneration using stem cell technology and tissue engineering.
- Recombinant human platelet–derived growth factor–BB in maxilo–facial bone regeneration.
- Development of umbilical cord blood preservation methods and research of morphoinductive features of umbilical cord blood cells.
- Possibility of application of the stem cells grafts in treatment of degenerative disorders of the skeletal tissues.
- Chronic liver diseases, type I diabetes.

International cooperation experience:

- “Development of a diagnostic tool for evaluating bone quality”, Germany, (2011–2012).
- Stem cells in the regeneration of scheletic tissues, Institutional project, 06.420.049A (2007–2010).
- The optimization of separation and cryopreservation of umbilical cord blood – a source of hematopoietic stem cells 08.819.09.01F, (2008–2009).
- The research of bacteriastatic properties and biological compatibility of endoprosthesis for large joints and new titanium–based materials worked with silver ions. 08.820.09.17, Russia (2008–2009).
- The research of biological compatibility and functional properties of modern materials based on implants titanium International, Russia (2006–2007).

Development and clinical use of composite materials in bone replacement surgery International SCOPES No. 7 IP 65791 (2002–2003).

Key words on core competencies

Bone marrow stem cells; cord blood stem cells; hepatic cirrosys; bone regeneration; degenerative diseases stem cells treatment.

Horizon 2020 relevant call: area of interest

Societal challenges	▪ Health, demographic change and wellbeing
Excellent Science	▪ Marie Skłodowska-Curie actions
Spreading excellence and widening participation	▪ Twinning of research institutions ▪ Teaming of excellent research institutions and low performing RDI regions



INSTITUTE OF ONCOLOGY

Organization contact data:

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Fax	(+373-22) 72-78-80
E-mail	anticamera@onco.md
Website	www.onco.md

Title and name of the contact person; position:

Scientific vice-deputy	Dr. hab. Gheorghe TIBIRNA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Institute of Oncology is the unique diagnostic, treating and prophylaxis medical institution in Republic of Moldova, which renders specialized medical assistance for cancer patients. Of more than 40.000 patients with neoplastic diseases, enrolled into the Cancer Register of the Institute of Oncology, approximately 27.000 persons are in-patients, being treated annually at the hospital. The Institute of Oncology has in disposition 1005 beds and 1803 workers, including 30 university professors and 350 doctors.

Expertise / Competences / Technologies / RTD know-how

Diagnosis and treatment of hematological malignancies.

Targeted therapy of lymphoproliferative and myeloproliferative neoplastic disorders.

International cooperation experience:

- HOPE'87 – HOPE for Children from Moldova: Creation of the bone marrow transplantation center for children and educational unit near it.
- Glivec® International Patient Assistance Program (GIPAP).
- TEMPUS–TACIS “PROBMEDFORM” Project and CBCR–Seminars.
- AAF–OSI Medical Seminars and Internship Program.

Key words on core competencies

Hematology; management; research; leukemia; lymphoma.

Horizon 2020 relevant call: area of interest

Societal challenges	▪ Health, demographic change and wellbeing
Excellent Science	▪ Marie Skłodowska-Curie actions
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Twinning of research institutions ▪ Teaming of excellent research institutions and low performing RDI regions



THE LABORATORY OF TISSUE ENGINEERING AND CELLULAR CULTURE, STATE MEDICAL AND PHARMACEUTICAL UNIVERSITY "N. TESTEMITANU"

Organization contact data:

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E-mail	nacu_viorel@yahoo.com
Website	www.usmf.md

Title and name of the contact person; position:

Head of the Laboratory	Dr. hab. Viorel NACU
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Laboratory potential: 1 academician, 2 professors, 2 postdoc, 5 PhD students.

The field of interests:

- Autologous mesenchymal stem cells.
- New methods of stimulation of the tissue regeneration using stem cell technology and tissue engineering; recombinant human platelet-derived growth factor-BB in maxillo-facial bone regeneration.
- Experimental induced osteonecrosis of the jaws after biphosphonates therapy.
- Development of umbilical cord blood preservation methods and research of morphoinductive features of umbilical cord blood cells.
- Possibility of application of the stem cells grafts in treatment of degenerative disorders of the skeletal tissues, reproductive and urogenital systems.

Expertise / Competences / Technologies / RTD know-how

- Autologous mesenchymal stem cells.
- New methods of stimulation of the tissue regeneration using stem cell technology and tissue engineering; Recombinant human platelet-derived growth factor-BB in maxillo-facial bone regeneration.
- Experimental induced osteonecroses of the jaws after biphosphonates therapy.
- Development of umbilical cord blood preservation methods and research of morphoinductive features of umbilical cord blood cells.
- Possibility of application of the stem cells grafts in treatment of degenerative disorders of the skeletal tissues.

International cooperation experience:

2002–2003: SCOPES "Development and clinical use of composite materials in bone replacement surgery", No. 7 IP 65791.

2006–2007: Project with Russia "The biological compatibility of implants and functional properties of advanced materials based on titanium alloys" – Russia.

2007–2008: Grant Fullbright, USA "Regulation of bone turnover by colony stimulating factor-1".

2008–2009: Project with Russia "The biological compatibility and bacteriostatic properties of surfaces and large joints endoprosthesis for titanium-based alloys processed with silver ions" _08.820.09.17R.

Key words on core competencies

Stem cells; cord blood stem cells; bone regenerations; bone defects; stem cells in type I diabetes.

Horizon 2020 relevant call: area of interest

Societal challenges	<ul style="list-style-type: none"> ▪ Health, demographic change and wellbeing
Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Twinning of research institutions ▪ Teaming of excellent research institutions and low performing RDI regions



METABOLIC SYNDROME LABORATORY, CARDIOLOGY DEPARTMENT, STATE MEDICAL AND PHARMACEUTICAL UNIVERSITY "N. TESTEMITANU"

Organization contact data:

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E-mail	vrevencu@hotmail.com
Website	www.usmf.md

Title and name of the contact person; position:

Head of the Laboratory	Dr. hab. Valeriu REVENCO
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Metabolic Syndrome Laboratory is carrying research activities within the Cardiology Department of the State University of Medicine and Pharmacy "Nicolae Testemitanu". Currently, there are 15 people operating in the laboratory.

In the last five years 2 international projects have been successfully executed.

Expertise / Competences / Technologies / RTD know-how

The strategic direction of the laboratory consists of an interdisciplinary approach towards the metabolic syndrome evaluating the cardiologic, endocrinological and biochemical factors of this condition. Having studied the syndrome since 1995, researchers have gained sufficient experience in the evaluation of the pathogenesis and treatment of the metabolic syndrome.

International cooperation experience:

2008–2009: "Pathophysiological mechanisms of insulin resistance and abnormal coronary flow in patients with metabolic syndrome", research program between the Academy of Sciences of Moldova and the Belarus Republican Fund for Fundamental Research.

2006–2007: "Lipid and glucide metabolism in patients with insulin resistance", cooperation program between the Academy of Sciences of Moldova and the Russian Foundation for Fundamental Research.

Key words on core competencies

Metabolic syndrome; insulin resistance; arterial hypertension; dyslipidemia; obesity.

Horizon 2020 relevant call: area of interest

Societal challenges	<ul style="list-style-type: none"> Health, demographic change and wellbeing
Excellent Science	<ul style="list-style-type: none"> Marie Skłodowska-Curie actions
Spreading excellence and widening participation	<ul style="list-style-type: none"> Twinning of research institutions Teaming of excellent research institutions and low performing RDI regions



**THE LABORATORY OF HEPATO–PANCREATO–BILIARY SURGERY, STATE MEDICAL
AND PHARMACEUTICAL UNIVERSITY "N. TESTEMITANU"**

Organization contact data:

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Website	www.usmf.md

Title and name of the contact person; position:

Head of the Laboratory	Dr. hab. Igor MISIN
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Scientific personnel 10: 1) Gheorghe Ghidirim, MD, PhD, Chief, Academician, Professor, 2) Igor Mishin, MD, PhD, Senior Research Surgeon (Coordinator), 3) Vladimir Kusturov, MD, PhD, Senior Research Trauma Surgeon, 4) Ion Gagauz, MD, PhD, Senior Research Surgeon, 5) Eugen Beschieru, MD, PhD, Senior Research Surgeon, 6) Irina Paladii, Research Surgeon, 7) Vadim Gheorghitsa, Research Surgeon, 8) Aliona Vizitiu, Fellow Researcher, 9) Radu Gurgish, Fellow Researcher, 10) Gheorghe Zastavitsky, Fellow Researcher.

Equipment: Ultrasound dissector SonoSurg–G2 Set (Olympus, Japan), Argon plasma coagulation (Tekno, Germany).

During 2006–2010: 214 scientific papers were published in 15 Journals with Impact Factor and 5 inventions were issued.

Expertise / Competences / Technologies / RTD know-how

Elaboration and perfection of treatment methods in surgery and trauma of hepato–pancreato–biliary system.

International cooperation experience:

Memberships:

- International Surgical Society: Ghidirim Gh. – Romanian Surgical Society (Hon.).
- Romanian Society of Laparoscopic Surgery (Hon.).
- European Society of Endoscopic Surgery.
- Mishin I.: International Society of Surgery (ISS/SIC), Zastavitsky Gh. – ISS/SIC.

Editorial Board:

- Ghidirim Gh.: “Chirurgia” Bucharest, Romania, “Jurnal de Chirurgie” Iasi, Romania.
- Mishin I. – World Journal of Gastroenterology.

Awards (Travel Scholar):

- Mishin I., MD, PhD – International Society of Surgery (1997), Japan Surgical Society (2001), Japan Society of Gastrointestinal Endoscopy (2002).
- Zastavitsky Gh. – Japan Surgical Society (2009), ISS/SIC (2009), European Society of Trauma and Emergency Surgery (2009).

Cooperation:

- National Institute of Surgery and Transplantation “A. Shalimov” (Kiev, Ukraine).

Key words on core competencies

Acute and chronic pancreatitis; portal hypertension; hepato–pancreato–biliary surgery; surgical oncology; trauma surgery.

Horizon 2020 relevant call: area of interest

Societal challenges	▪ Health, demographic change and wellbeing
Excellent Science	▪ Marie Skłodowska-Curie actions
Spreading excellence and widening participation	▪ Twinning of research institutions ▪ Teaming of excellent research institutions and low performing RDI regions



SCIENTIFIC DEPARTMENT OF NEUROLOGY, SCIENTIFIC RESEARCH INSTITUTE OF MOTHER AND CHILD HEALTH CARE

Organization contact data:

Address	93, Burebista str., Chisinau, MD-2060, Republic of Moldova
Telephone	(+373-22) 52-36-61
Fax	(+373-22) 52-11-71
E-mail	nastika_kristina@yahoo.com
Website	www.mama-copilul.md

Title and name of the contact person; position:

Head of the Laboratory	Dr. hab. Gheorghe RAILEAN
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Scientific Department of Neurology was founded in 1998.

Staff: one Professor of Pediatrics vertebrologist, one Associate Professor and three Doctors Fellows and Junior Researchers.

Personnel carry out the research in accordance with the program for scientific research of the institution on the problem of "The risk factors for children neurological pathology".

The last 5 years the priority – antenatal risk factors.

Expertise / Competences / Technologies / RTD know-how

The research project performed by the team:

"Early prevention and treatment of pregnant women with no increased risk of pathology of central nervous system to decrease the unborn children", 2008–2010.

"Clinical–experimental intrauterine development and factors that influence the nervous system to the unborn child ", 2011–2014.

Based on genetic analysis, the selection criteria for high–risk family groups with neurological pathology were elaborated with a view to programming and improvement of prevention measures as soon as possible. This work is continued in the current project which is designed to assess the causes, characteristics and mechanisms of neurological pathology, in order to improve diagnosis and to guide treatment. The team of researchers has valuable experience in organizing workshops, training activities at the national level and international scientific meetings.

International cooperation experience:

The Scientific Department of Neurologist has a good experience in collaborating with international organizations and continued the collaboration with the Department of Neurologist and Plastic and Reconstructive Surgery at Wake Forest University, Center in Winson–Salem, North Carolina, USA. The Scientific Department of Neurologist at the Research Institute for Maternal and Child Healthcare is interested in collaboration oriented on the transfer of modern technologies, and clinical and epidemiological studies.

Key words on core competencies

Antenatal; risk factors; child; genetics; neurological pathologies.

Horizon 2020 relevant call: area of interest

Societal challenges	<ul style="list-style-type: none"> Health, demographic change and wellbeing
Excellent Science	<ul style="list-style-type: none"> Marie Skłodowska-Curie actions
Spreading excellence and widening participation	<ul style="list-style-type: none"> Twinning of research institutions Teaming of excellent research institutions and low performing RDI regions

**SCIENTIFIC DEPARTMENT OF PEDIATRICS, SCIENTIFIC RESEARCH INSTITUTE
OF MOTHER AND CHILD HEALTH CARE**

Organization contact data:

Address	93, Burebista str., Chisinau, MD-2060, Republic of Moldova
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E-mail	alacojocar@yahoo.com
Website	www.mama-copilul.md

Title and name of the contact person; position:

Head of the Laboratory	Dr. Ala COJOCARU
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Scientific Department of Pediatrics is one of the leading divisions in the research field of the Scientific Research Institute of Mother and Child Health Care. From the foundation in 1988 until nowadays the staff, including seven team members (one Professor of Pediatrics, three Associate Professors and Senior Researches, and three Doctorate Fellows and Junior Researches) carries out research in accordance with the program for scientific research of the institution on the problem of "Healthy Child and the Environment (role of the environmental factors in the development of the morbidity at children)", especially in the last 5 years the priority area was pediatric allergology.

Expertise / Competences / Technologies / RTD know-how

The research project performed by the team and entitled "Insights into the ecopathogenesis of allergy at children" (2006–2008) was an epidemiological research into asthma and allergic disease based on the standardized methodology – the International Study of Asthma and Allergies in Childhood (ISAAC), and also included a double blinded, placebo-controlled clinical trial of the effect of addition of oral Montelukast to standard treatment in acute moderate to severe asthma in children in order to maximize the efficiency of the controller medications for asthma patients.

The ISAAC study resulted with the description of the prevalence and severity of asthma, rhinitis and eczema in children living in different centres of Moldova, a baseline measures for assessment of future trends in the prevalence and severity of these diseases was obtained, and a framework for further etiological research into genetic, lifestyle, environmental, and medical care factors affecting these diseases was provided.

Thus, the next research on "Gene – Environment interaction in the development and spread of atopic disease in children" (2009–2010) aimed to evaluate the spread of allergic disorders by using a wide range of up-to-date genetic and immunological methods (e.g. candidate gene typing, analysis of the genetic expression profile, study of immune mediators and genes of interleukines).

The study of candidate genes in atopy and of genes responsible for synthesis of certain cytokines in the humoral immune response allowed us to define the molecular hereditary peculiarities, which predispose to the disease development. Based on genetic analysis, the selection criteria for high-risk family groups with atopic disease were elaborated with a view to programming and improvement of prevention measures as soon as possible. This work is continued in the current project ("Development of the integrative approach to atopic diseases in children", 2011–2014) which is designed to assess the causes, characteristics and mechanisms of asthma and wheezy bronchitis due to viral or atypical bacterial infection, in order to improve diagnosis and to guide treatment.

The team of researchers has valuable experience in organizing workshops, training activities at the national level and international scientific meetings.

International cooperation experience:

Project "Implementation of the Child Health Handbook for fortifying the informational and educational work with the family and the growth of a healthy child in the Republic of Moldova" (2010–2011) performed in collaboration with Japanese International Cooperation Agency, UNICEF and Ministry of Health of the Republic of Moldova. Analytical observational study – "Evaluation Study on Functioning of Standards of Health Supervision for Well-child Care (0–18 years) at the Primary Health Care level" (2011–2012).



Key words on core competencies

Child; allergy; environment; genetics; immune system.

Horizon 2020 relevant call: area of interest

Societal challenges	▪ Health, demographic change and wellbeing
Excellent Science	▪ Marie Skłodowska-Curie actions
Spreading excellence and widening participation	▪ Twinning of research institutions ▪ Teaming of excellent research institutions and low performing RDI regions



LABORATORY OF PERINATOLOGY, SCIENTIFIC RESEARCH INSTITUTE OF MOTHER AND CHILD HEALTH CARE

Organization contact data:

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Website	www.mama-copilul.md

Title and name of the contact person; position:

Head of the Laboratory	Dr. Ala CURTEANU
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Laboratory was created in 1988, now 5 researches and 1 laboratory assistant activate in the Laboratory. The Laboratory of Perinatology is engaged in fundamental and applied research in the **following directions**:

- Determination of major risk factors in morbidity and early neonatal mortality (2006–2008).
- Specific of ELBW and LBW newborns adaptation and study of high modern technologies in developing somatic and neurologic complications in these newborns (2009–2010).
- Particularities on infection in the premature baby and development of the preventing methods of infectious complications (2011–2014).

Expertise / Competences / Technologies / RTD know-how

Neurodevelopment of newborns at risk; microbiological spectrum of infections; antibiotic resistance, inflammatory response within respiratory support techniques; inflammatory response in infections, early diagnostic of specific infections: PCR, avidity; confidential enquiry of perinatal deaths, assessment of the quality of hospital care; quality assurance / quality management; mapping of perinatal health indicators, ICT technologies in perinatal health.

International cooperation experience:

- 2011–2014: Moldova Swiss Perinatology Project, phase 3. Swiss TPH Institute. Operational research on effects of respiratory support methods on ELBW and LBW babies neurodevelopment.
- 2006–2010: FIGO Saving Newborns Lives Project. Perinatal Institute, Birmingham, UK.
- Since 2012. Vilnius University, Republic of Lithuania. Agreement of Cooperation: implementation of joint research projects.
- Since 2012: Centre of Perinatal and Reproductive Medicine, University of Perugia, Italy. Agreement of Cooperation: exchange of research staff, implementation of joint research projects.
- Since 2008: Medical and Pharmaceutical University “Gr.T. Popa”, Iasi, Romania. Program of Cooperation: exchange of specialists, exchange of scientific and educational materials, bilateral organization of the regional conferences.
- Since 2002: Department of Pediatrics, Division of Neonatal Medicine, University of Louisville, Kentucky, USA. Bilateral visits, fellowships, joint scientific events, etc.

Key words on core competencies

Newborn; neurodevelopment; respiratory support; infection; antibiotic resistance.

Horizon 2020 relevant call: area of interest

Societal challenges	<ul style="list-style-type: none"> ▪ Health, demographic change and wellbeing
Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Twinning of research institutions ▪ Teaming of excellent research institutions and low performing RDI regions



**THE LABORATORY OF MICROBIOLOGY AND MORPHOLOGY OF TUBERCULOSIS,
THE INSTITUTE OF PHTHISIOPNEUMOLOGY "CHIRIL DRAGANIUC"**

Organization contact data:

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Website	www.ifp.asm.md/node/234

Title and name of the contact person; position:

Head of the Laboratory	Dr. Valeriu CRUDU
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Laboratory of Microbiology & Morphology of Tuberculosis (TB) functions as the coordinating body for the microbiological TB diagnosis services.

The laboratory performs: microscopic investigations; isolations of pure *M. tuberculosis* cultures; epidemiological surveys of anti-TB drug resistance; molecular line probe assays for rapid screening of patients at risk of multidrug-resistant tuberculosis (MDR-TB).

The Laboratory is equipped with: biosafety cabinets, autoclaves, BACTEC/MGIT, thermostats, PCR machines, equipment for genetic identifications of *Mycobacteria*, and fluorescent microscopes.

Staff of laboratory 10: 5 MD (including 2 PhD), 5 lab technicians.

Expertise / Competences / Technologies / RTD know-how

Molecular line probe assays; isolation of pure cultures of *M. tuberculosis* (classic LJ method, BACTEC MGIT); fluorescence microscopy investigations; epidemiological survey of anti-TB drug resistance.

International cooperation experience:

- Rapid Tests for Drug Resistance to Detect Extensively Drug-Resistant Tuberculosis. DMID Protocol Number: 09-0099. Sponsored by: National Institute of Allergy and Infectious Diseases (NIAID). DMID Funding Mechanism: Cooperative Research Partnerships for Biodefense and Emerging Diseases. Principal Investigator: Antonino Catanzaro; University of California, San Diego.
- TB PAN-NET: Pan-European network for study and clinical management of drug resistant tuberculosis. "Clinical research drug resistant TB in Europe" TBPANNET is a European collaboration for research on MDR/XDR-TB, which has the task to establish a European data base on MDR-TB. Research Centre Borstel and TBNET are the administrative and implementing partners in this project.
- Project: "Evaluation of the β Version of the GenoType® Mtbresdir Test with NalC-Decontaminated Clinical Specimens". Study coordinator: Dr. Vera Allerheiligen, Hain Lifescience GmbH. Function of the β version of the GenoType® MTBResDir test. The β version of the "GenoType® MTBResDir" test is a molecular-genetic test system for the identification of the *Mycobacterium tuberculosis* complex (MTBC) and its resistance against rifampicin and/or isoniazid from culture samples and specimens.

Key words on core competencies

Mycobacteria; tuberculosis; drug resistance; MDR TB; molecular LiPA

Horizon 2020 relevant call: area of interest

Societal challenges	<ul style="list-style-type: none"> Health, demographic change and wellbeing
Excellent Science	<ul style="list-style-type: none"> Marie Skłodowska-Curie actions
Spreading excellence and widening participation	<ul style="list-style-type: none"> Twinning of research institutions Teaming of excellent research institutions and low performing RDI regions

THE LABORATORY OF HUMAN REPRODUCTION AND IMMUNOCHEMICAL INVESTIGATIONS, NATIONAL CENTRE OF REPRODUCTIVE HEALTH AND MEDICAL GENETICS

Organization contact data:

Address	82, Burebista str., Chisinau, MD-2062, Republic of Moldova
Telephone	(+373-22) 56-79-31
E-mail	nsorici@yahoo.com
Website	www.reprogenetics.md

Title and name of the contact person; position:

Head of the Laboratory	Dr. Natalia SORICI
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Laboratory has determined significant immune disorders in the peritoneal fluid of women with tubo-peritoneal sterility: T-cellular-immunodeficiency, disorder of the psychological immunoregulatory balance; B-lymphocytosis; decreases of phagocytary activity of neutrophils (segmented cells); presence and increasing of C-reactive proteins's concentration decreasing; the number of macrophages and macrophagic activity and interleukines IL-1 β and IL-6. The number of peritoneal macrophages corresponds to macrophagic activity. The Laboratory developed algorithm to optimise the diagnostic and patients with tubal infertility, assisted reproduction program includes.

Expertise / Competences / Technologies / RTD know-how

IVF treatment; diagnostic ultrasound.

International cooperation experience:

The Laboratory is implementing a bilateral Moldovan-Romanian project "Diagnostics of molecular and proteomic implications in microbial cause of infertility – acronym: infertmic (2010–2012)".

Expected results at the end of the project: elaboration of standards and protocols to guide basic and applied research of tubo-peritoneal infertility; 2 articles will be published in journals indexed in international databases.

Key words on core competencies

Infertility; reproduction; FIV; obstetric; gynaecology.

Horizon 2020 relevant call: area of interest

Societal challenges	<ul style="list-style-type: none"> Health, demographic change and wellbeing
Excellent Science	<ul style="list-style-type: none"> Marie Skłodowska-Curie actions
Spreading excellence and widening participation	<ul style="list-style-type: none"> Twinning of research institutions Teaming of excellent research institutions and low performing RDI regions

NATIONAL SCIENTIFIC & PRACTICAL CENTRE FOR EMERGENCY MEDICINE

Organization contact data:

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E-mail	anticamera@urgenta.md , mishin@urgenta.md
Website	www.urgenta.md

Title and name of the contact person; position:

Head of the Laboratory	Dr. hab. Igor MISIN
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The centre is a university hospital with 9 Surgery Departments, 2 Courses and 3 Scientific Laboratories. Modern equipment used: CT, US, endoscopy and minimally invasive surgery, biochemical analysers.

Main scientific directions: organization of specialized services for multiple and associated trauma on the pre-hospital and hospital stage; elaboration of “damage control” principles for abdominal traumas and acute abdominal surgical pathologies; elaboration of diagnostic and management methods for acute abdominal pathologies using new technologies. Personnel: 56 employees with scientific degrees (2 academicians, 12 professors, Dr. h. med. sci. –13, Ph.D. – 43).

Expertise / Competences / Technologies / RTD know-how

The Centre developed an original mini-invasive method of fixating pelvic fractures; an experimental method of albumin glutaraldehyde sealing for haemostasis in solid organ injuries; a new classification of oesophageal variceal bleeding activity. The “damage control” principle in acute mesenteric ischemia was elaborated and applied.

International cooperation experience:

Memberships:

- International Society of Surgery.
- International Union of Angiology.
- International Academy of Pathology.
- European Society of Pathology.
- Balkan Medical Union.

Editorial Board:

- Romanian Journal of Morphology and Embryology.
- Archives of the Balkan Medical Union.
- Partnerships –Institute of Surgery and Transplantology “A.A.Shalimov”, Kiev, Ukraine.
- Collaborative Project (SCOPES): “The evaluation of patients with epilepsy before surgery”.
- University Hospital, Geneva, Switzerland.

International Projects:

- “The treatment of epilepsy”. Royal College of Surgeons, England.
- “Transcranial magnetic stimulation”. University Hospital Schleswig–Holstein, Kiel, Germany.
- “Cerebrovascular Diseases”. Department of Neurology, State Medical University, Russia, Moscow.
- “Cerebrovascular Diseases”. Cerebrovascular Disease Institute, Russia.

Key words on core competencies

Surgical pathologies; mesenteric; mini-invasive; trauma, hospital.

Horizon 2020 relevant call: area of interest

Societal challenges	<ul style="list-style-type: none"> ▪ Health, demographic change and wellbeing
Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Twinning of research institutions ▪ Teaming of excellent research institutions and low performing RDI regions

**SCIENTIFIC LABORATORY OF NEUROSURGERY,
THE INSTITUTE OF NEUROLOGY AND NEUROSURGERY**

Organization contact data:

Address	2, Korolenko str., Chisinau, MD-2028, Republic of Moldova
Telephone	(+373-22) 82-90-27
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E-mail	liliarotaru@yahoo.com
Website	www.inn.md

Title and name of the contact person; position:

Head of the Laboratory	Dr. hab. Stela ODOBESCU
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The laboratory has the main aim to:

- Diagnose and perform neurosurgery treatment as well as scientific studies of patients with stroke, diverse cerebral and spinal tumours.
- Perform new neurointerventions and new guidance–methods.

Expertise / Competences / Technologies / RTD know-how

Accredited in research. Provides CT, MRI, angio–imaging. Destined to investigations and neurosurgery treatment of patients with stroke, with diverse cerebral and spinal tumours.

International cooperation experience:

Involved in international scientific cooperation with similar research institutions from:

- University Clinic, Essen, Germany.
- Technical University, Dresden, Germany.
- Awaza Clinic, Matsumoto, Japan, Matsumoto.
- Department of Neurology, Emory University, Georgia, Atlanta, USA.

Key words on core competencies

Headache disorders; autonomic troubles; back pain neuropathies; brain ischemia; stroke; neurological rehabilitation.

Horizon 2020 relevant call: area of interest

Societal challenges	▪ Health, demographic change and wellbeing
Excellent Science	▪ Marie Skłodowska-Curie actions
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Twinning of research institutions ▪ Teaming of excellent research institutions and low performing RDI regions



SCIENTIFIC LABORATORY OF SPINAL COLUMN NEUROLOGY, THE INSTITUTE OF NEUROLOGY AND NEUROSURGERY

Organization contact data:

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E-mail	diomidgherman@mail.ru
Website	www.inn.md

Title and name of the contact person; position:

Head of the Laboratory	Dr. hab. Diomid GHERMAN
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Scientific Laboratory of Spinal Column Neurology has the aim to perform diagnostics and treatment, inclusive scientific studies of the patients with spinal column disorders, back pain neuropathies. The staff of SLSCN includes: 6 neurologists–researches and 2 PhD trained on the above mentioned topics.

Expertise / Competences / Technologies / RTD know-how

Certified by Activity Paper. Clinical evaluations is made by means of complex structured examinations. Performing explorations by CT, MRI, EMG with X–ray control etc.

International cooperation experience:

Technical University, Department of Neurology, Dresden, Germany.

Emory University, Department of Neurology, Atlanta–Georgia, USA.

Key words on core competencies

Back pain; neuropathy; EMG, neuroimaging; spinal column troubles; epidural anaesthesia.

Horizon 2020 relevant call: area of interest

Societal challenges	<ul style="list-style-type: none"> Health, demographic change and wellbeing
Excellent Science	<ul style="list-style-type: none"> Marie Skłodowska-Curie actions
Spreading excellence and widening participation	<ul style="list-style-type: none"> Twinning of research institutions Teaming of excellent research institutions and low performing RDI regions



**THE LABORATORY OF RADIATIONS HYGIENE,
THE NATIONAL CENTRE FOR PUBLIC HEALTH**

Organization contact data:

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Website	www.cnspl.md

Title and name of the contact person; position:

Head of the Laboratory	Dr. hab. Liubov CORETCHI
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The strategic direction of the laboratory: establishing the medico–biological effects of ionizing radiations at various biological levels (population, individuum, cell, molecule, DNA). Number of staff: 8.

Research achievements:

- Quantification and mapping of the natural and technogen radionuclides in the environment during the last 30 years (including radon).
- Establishing medico–biological effects of ionizing radiations.
- Health estimation and control of radiation therapy and radiation diagnostic investigation.

Expertise / Competences / Technologies / RTD know-how

Researching population and professional exposure doses from natural and medical radiations. Elaboration of norms and normative acts based on scientific results for the radiological protection of the population, patients and professionally exposed individuals. Spectrometry investigations using the “PROGRESS BG” spectrometer and radonometry using the “Alpha Guard System”, dosimetric passive type Radosys and CR39 detectors; The study of DNA polymorphism and cytogenetic investigations of individuals exposed to ionizing radiations.

International cooperation experience:

- Frederic Joliot Curie National Research Institute for Radiobiology and Radiohygiene, Budapest, Hungary.
- Nuclear Research Institute, Dubna, Russian Federation.
- Institute of Public Health, Bucharest, Timisoara, Iasi, Romania.
- International Atomic Energy Agency (IAEA), Vienna, Austria.
- SARAD, Dresden, Germany.

Projects:

2005–2008: Monitoring of Natural Hazards (funded by IAEA).

2006–2008: Evaluation of risk factors associated with ionizing radiation (National).

2008–2010: Evaluation of Natural and Mutant Genetic Diversity Using Nuclear and Molecular Techniques, funded by IAEA.

Key words on core competencies

Radiobiology; radioprotection; medico–biological effects; radionuclide; cancer morbidity.

Horizon 2020 relevant call: area of interest

Societal challenges	▪ Health, demographic change and wellbeing
Excellent Science	▪ Marie Skłodowska-Curie actions
Spreading excellence and widening participation	▪ Twinning of research institutions ▪ Teaming of excellent research institutions and low performing RDI regions



NATIONAL CENTRE OF REPRODUCTIVE HEALTH AND MEDICAL GENETICS

Organization contact data:

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Website	www.reprogenetics.md

Title and name of the contact person; position:

Head of the Laboratory	Dr. Victoria SACARA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Centre was founded in 2003. It includes: The Scientific Department of Reproduction and Medical Genetics specialized in molecular–genetic and immunological investigations; the Department of Reproductive Health with the Laboratory for Assisted Reproduction; The Department of Clinical Genetics with the Cytology Laboratory; and the management unit. There are 68 collaborators in the Centre, including 19 researchers, 13 of them having scientific degrees (dr. hab. med, Prof. V. Mosin; corresponding member of ASM, Prof. St. Groppa; and 11 PhDs).

Expertise / Competences / Technologies / RTD know-how

- PCR, SSCP, RFLP, Long range PCR, Heteroduplex analysis, MTT test, ELISA.
- The elaboration of scientific technologies for maintaining and improvement of reproductive health and prevention of hereditary pathologies in Moldova.
- The improvement of National Register of Congenital Diseases in accordance with the EUROCAT Register for the evaluation of mutagenic and teratogenic factors in the Moldovan population.
- Implementation of new methods for prenatal, cytogenetic and molecular genetic diagnostics of hereditary and congenital pathologies.

International cooperation experience:

- Project “Functional studies of copper transporter ATP7B in hepato–cytes and neurons for targeted therapy of Wilson’s disease” (Germany – Westfälische Wilhelms–Universität Münster).
- Project “Genes and environment determining childhood asthma in Moldova and Germany (Germany Medizinische Hochschule Hannover).
- Project “Developing methods and psychomotor improvement of patients with Down disease and the psychological status of the family” (Romania).
- Project “Man in space disease: research methods in medical humanities”.
- Project “Bioethical fundamentals of biological and genetic medical research” (Russian Federation).
- Project “Bioethical fundamentals of biological and genetic medical research” (Republic of Belarus).

Key words on core competencies

Hereditary diseases; population genetics; complex diseases; DNA; mutations.

Horizon 2020 relevant call: area of interest

Societal challenges	<ul style="list-style-type: none"> ▪ Health, demographic change and wellbeing
Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Twinning of research institutions ▪ Teaming of excellent research institutions and low performing RDI regions





FOOD, AGRICULTURE AND FISHERIES, BIOTECHNOLOGY

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PRACTICAL SCIENTIFIC INSTITUTE OF HORTICULTURE AND FOOD TECHNOLOGY, RESEARCH GROUP "VITICULTURE AND WINEMAKING", "HORTICULTURE", "FOOD TECHNOLOGY"

Organization contact data:

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Telephone	(+373-22) 28-50-18
E-mail	adajuc.victoria@yandex.ru

Title and name of the contact person; position:

Senior Scientist	Dr. Victoria ADAJUC
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Practical Scientific Institute of Horticulture and Food Technology is a public law organization in the field of science and innovations. Organizational-legal form - a public institution funded entirely from the state budget. Practical Scientific Institute of Horticulture and Food Technology was formed through reorganization by virtue of the merger (fusion) between state enterprises: The Institute of Horticulture, SOE National Institute of Viticulture and Winemaking; Nut crop center; The Institute of Food Technologies; and subdivisions: vegetables crops and potatoes of the Institute of Plant growing "Porumbeni", and is the successor of all rights and obligations in accordance with the provisions of their transfer.

The Institute carries out its activities in conformity with the Constitution of the Republic of Moldova, the Code on Science and Innovations, International treaties to which Moldova is a party, and other regulations including normative acts of the Academy of Sciences of Moldova.

Staff of the Institute: 186 scientific researchers, inclusive: 49 -Ph.D; 13-Doctors of Science; 18- Ph.D students. Research achievements for the last 5 years:

- 554 scientific works, inclusive: 13-monography; 9 -articles with impact factor; 183- articles published abroad.
- Participation in Conferences, Meetings, Symposiums organized in the country and abroad.
- Participation in National and International Projects.

Expertise / Competences / Technologies / RTD know-how:

- New grape varieties, vegetable crops, orchard crops was obtained.
- Elaboration of new technologies for production of different types of wine.
- Development of normative and technical documentation for the purpose of their integration into international organizations (EU, CSI, etc.).
- Development of technologies for production of new food products using technological processes and modern equipment in the field of processing of fruit, vegetables, meat and milk.

International cooperation experience:

Practical Scientific Institute of Horticulture and Food Technology cooperates with different Research Institutions in the field of Horticulture, Viticulture, Food Technologies from: Romania, Italy, Russia, Ukraine, Germany, Belarus, etc.

Key words on core competencies:

Viticulture; winemaking; horticulture; food; technology.

Horizon 2020 relevant call: area of interest:

Excellent Science	▪ European Research Council
Industrial Leadership	▪ Leadership in enabling and industrial technologies (LEIT)
Societal challenges	▪ Health, demographic change and wellbeing
Spreading excellence and widening participation	▪ Teaming of excellent research institutions and low performing RDI regions
Other	▪ Science with and for Society

INSTITUTE OF AGRICULTURAL TECHNIQUE "MECAGRO"

Organization contact data:

Address	7, Miron Costin str., Chisinau, Republic of Moldova
Telephone	(+373-22) 49-21-31
E-mail	institute@mecagro.md
Website	www.mecagro.md

Title and name of the contact person; position:

Director	Dr. Valerian CEREMPEI
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Institute of Agricultural Technique "Mecagro" is the basic institution in the mechanization of agriculture and manufacturing industry from Republic of Moldova. Taking into account the main objectives, the Institute elaborates the political documents according to mechanization development of agro-food sector and efficient using the technical means, performs scientific researches and technological designs, and develops technologies and technical means for the agricultural sector, for the production and using the source of renewable energy.

The last 5 years were elaborated the technical means for:

- Conditioning and using in energetically aims of vegetable mass;
- Livestock sector;
- Processing of agricultural production;
- Plants protection;
- Mechatronic systems.

Expertise / Competences / Technologies / RTD know-how

Scientific Accreditation Certificate, registered at State Registration Chamber with nr. 1003600102162 from 11.07.2008/certificates according to technico-scientific production, issued by the National Institute of Metrology and Standardization from Republic of Moldova, Certificate according to machines for plants protection, issued by Commerce Chamber from Russian Federation /technologies, machines and know-how equipment for agriculture.

International cooperation experience

- National Institute of Research-Development for Machines and Installations Designed to Agriculture and Food Industry (INMA), Romania, Bucharest.
- Research Institute of Agricultural Engineering, Prague 6 – Ruzyně, Czech Republic.

Key words on core competencies

Mechatronic systems; plants protection; agriculture, agricultural techniques, alternative energy, mechatronics means.

Horizon 2020 relevant call: area of interest

Excellent Science	<ul style="list-style-type: none"> ▪ Future and Emerging Technologies ▪ Marie Skłodowska-Curie actions
Industrial Leadership	<ul style="list-style-type: none"> ▪ Leadership in enabling and industrial technologies (LEIT) ▪ Innovation in SMEs
Societal challenges	<ul style="list-style-type: none"> ▪ Food security, sustainable agriculture and forestry, marine and maritime and inland water research ▪ Smart, green and integrated transport ▪ Climate action, environment, resource efficiency and raw materials
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Supporting access to international networks for excellent researchers and innovator ▪ Twinning of research institutions



**LABORATORY OF PEDOLOGY (SOIL SCIENCE),
INSTITUTE OF PEDOLOGY, AGROCHEMISTRY AND SOIL PROTECTION "NICOLAE DIMO"**

Organization contact data:

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Website	www.ipaps.md

Title and name of the contact person; position:

Staff	Dr.hab., Prof. Valerian CERBARI, Head of the Laboratory Dr., Prof. Leonid POPOV
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Institute of Pedology, Agrochemistry and Soil Protection "Nicolae Dimo" was founded in 1953 by the Academy of Science of Moldova. Reorganized by transformation: Certificate MD 0084563 of 03/09/2008, Accredited as Organization of Science and Innovation: Certificate P 050 26.01.2012; Qualification - International competitiveness organization (category B).

Profile of research: Soil resources: evaluation, protection and enhancement of soil fertility.

Number of staff: total – 70, inclusively: scientific researchers-28, (Academician - 1, PhD – 20, Scientific researchers up to 35 years – 6, PhD students – 5).

Research achievements for the last 5 years:

- Monographs – 6, Scientific paper – 175, Conferences – 2, Seminar 45, PhD – 4;
- Development of agropedophytoameliorative technologies to remedy the quality status of degraded chernozems;
- Develop procedures for reducing the liquid and solid leakage on the eroded slopes, the erosion permissible limit and protection the environment;
- Recommendations for prevention and control degradation of soil in the irrigated perennial plantations;
- Recommendations on the application of fertilizers on different types and subtypes of soil in the crop rotation under climate change;
- Technologies for composting the local organic waste as fertilizer accumulated in the current socio-economic sector.

Expertise / Competences / Technologies / RTD know-how:

- Management of soil resources under climate change.
- Remediation of degraded soils characteristics by phytoamelioration methods.
- Soil mapping and developing measures for its rational use and protection.
- Soil classification and creation of information system of soil quality at commune level.
- Risk assessment in agriculture and soil degradation factors.
- Estimating carbon balance in agricultural soils.
- Develop measures to increase the flow of organic matter in soils.
- Studies on the genesis and distribution of soils in the arid mountains.

International cooperation experience:

International. EU Black Sea Basin 2007-2013 JOP "Sharing Collectively the Competences of the Researchers to the Farmers for a Sustainable and Ecological Exploitation of the Agricultural and Environment Protection / ECO-AGRI"(2012-2014) www.ecoagri.ecomct.ro.

International. PNUD. Capacity building program in low-carbon development in Moldova (2014-2016).

International. UE-ICF. Sustainable Integrated Land Use of the Eurasian Steppe. 124907/C/SER/Multi/5.

Bilateral. MD-Germany. Restoration the structure, remediation the physical properties and carbon conservation of arable chernozems by using the green manure in crop rotation (2013-2015). 13.820.14.05/GA.

Bilateral. MD-Belorussia. Dependence between potassium content and available global biological podzolic soils of Belarus and Moldova chernozems (2010-2011). 10.820.04. 10BF.



Key words on core competencies:

Soil degradation; soil fertility; environment; conservative agriculture.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none">▪ European Research Council▪ Marie Skłodowska-Curie actions▪ Research infrastructures
Industrial Leadership	<ul style="list-style-type: none">▪ Leadership in enabling and industrial technologies (LEIT)▪ Innovation in SMEs
Societal challenges	<ul style="list-style-type: none">▪ Food security, sustainable agriculture and forestry, marine and maritime and inland water research▪ Climate action, environment, resource efficiency and raw materials▪ Europe in a changing world - inclusive, innovative and reflective Societies
Spreading excellence and widening participation	<ul style="list-style-type: none">▪ Twinning of research institutions▪ Teaming of excellent research institutions and low performing RDI regions▪ ERA chairs▪ Supporting access to international networks for excellent researchers and innovators
Other	<ul style="list-style-type: none">▪ Science with and for Society



**GROUP OF SOIL BIOLOGY, INSTITUTE OF PEDOLOGY,
AGROCHEMISTRY AND SOIL PROTECTION "NICOLAE DIMO"**

Organization contact data:

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Website	www.ipaps.md

Title and name of the contact person; position:

Senior Scientist	Dr., Assoc. prof. Irina SENICOVSCAIA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Group of Soil Biology is a structural subdivision of the Laboratory of Pedology in the Institute of Pedology, Agrochemistry and Soil Protection. The group consists of 4 persons. Research achievements: the assessment system (information database, statistical parameters, criteria, and scales) of the soil biota stability have been elaborated for soils in the Republic of Moldova. The modifications of the biological properties of soils as a result of their long-term arable use, the application of high doses of fertilizers, the use of saline waters for irrigation and the impacts of erosion processes have been established. Knowledge about the biological degradation of soils as the result of dehumification processes, the de-structuring of soil aggregates and alkalization of anthropogenic nature and about the interaction between the soil biota with organic matter has been expanded.

It is for the first time at the national level the zones of homeostasis (natural stability) of the biota standards of different soils have been determined. The system of fertilizers application on soils with a normal profile and the reclamation technology on chernozems, irrigated with saline water, has been substantiated from the biological point of view. The optimal doses of fertilizers and ameliorants for the recovery of the biota of degraded soils and for the improvement of the soil quality and of the environment have been established. The recovery rate of the biota and of the fertility of eroded chernozems in the conditions of the fallow has been determined and recovery process in soils degraded by water erosion has been argued for.

Status of the microbial community of soils polluted with pesticides has been studied around the former chemical warehouse. The microbiological processes of biogas formation have been investigated. The method to enhance of the fertility of eroded soils and procedures of the purification and application of different wastes has been developed and patented.

Expertise / Competences / Technologies / RTD know-how:

Domain of research: soil biology, microbiology and biochemistry, microbiology of industrial and household wastes, ecology and environmental protection.

Description of expertise: monitoring of the soil biota; microbiological and enzymological testing of soils, undersoils, wastes, sewage water; evaluation of the stability of microorganisms and invertebrates to anthropogenic and natural impacts and hazards; elaboration of biological indexes for national standards of soil quality; investigation of the interaction between biota, physical and chemical properties of soils; estimation of the content, stocks and distribution of the soil microbial carbon, its contribution to the changes of climate; researches of microbiological and biochemical aspects of utilization of wastes; microbiological control of contaminated soils.

International cooperation experience:

- Team member of the project STCU № 5832 "Biochemical stimulation of anaerobic processes and the development of multifunctional reactor to obtaining of the molecular biohydrogen and biomethane" (2013-2015).
- Team member of the project STCU № 5393 "Combined bioreactor with useful products and high efficiency of biomethane as alternative energy source" (2011-2012).
- Team member of the project "Elimination of acute risks from Obsolete Pesticide in Moldova" (department "Fitoremediation sates polluted by obsolete pesticides"), MilieuKontakt, the Netherlands, (2007-2008).
- Team member of the project "Impact of rhizobacterial exopolysaccharides on environmental security" CLG 980441. NATO Science Program (2003-2005).



Key words on core competencies:

Soil biota; environment; soil quality; waste; microorganisms in bioreactors.

Horizon 2020 relevant call: area of interest

Excellent Science	<ul style="list-style-type: none">▪ European Research Council▪ Future and Emerging Technologies▪ Research infrastructures
Industrial Leadership	<ul style="list-style-type: none">▪ Leadership in enabling and industrial technologies (LEIT)▪ Innovation in SMEs
Societal challenges	<ul style="list-style-type: none">▪ Food security, sustainable agriculture and forestry, marine and maritime and inland water research▪ Secure, clean and efficient energy▪ Climate action, environment, resource efficiency and raw materials▪ Europe in a changing world - inclusive, innovative and reflective Societies citizens
Spreading excellence and widening participation	<ul style="list-style-type: none">▪ Twinning of research institutions▪ Teaming of excellent research institutions and low performing RDI regions▪ Supporting access to international networks for excellent researchers and innovators
Other	<ul style="list-style-type: none">▪ Science with and for Society



**DEPARTMENT OF AGRICULTURAL MECHANIZATION; MACHINES AND INSTALLATIONS FOR
AGRICULTURE AND FOOD INDUSTRY; STATE AGRARIAN UNIVERSITY OF MOLDOVA**

Organization contact data:

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Title and name of the contact person; position:

Head of department	Dr. hab., Assoc. prof. Vladimir SERBIN
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

In 1950, by the judgment Council of Ministers of the USSR, within the agricultural Institute M.V. FRUNZE in Chișinău is created Faculty of mechanization of agriculture.

Since 1998 the department works under management of the doctor habilitate in technical, Associate Professor V. Serbin. Within department, is organized PhD studies at specialty 255.01 "Technologies and technical means for agriculture and rural development". In 2013, at the department was sustained PhD thesis by university lecturer M. Gadibadi on "Argumentation of constructive and technologic parameters of the seeder coulters for grain crops".

A high support for training of faculty specialists has from the "Centre for perfecting in the agricultural mechanization field" MAIA, the Moldovan-Japanese project 2KR and Ltd. "Agrofermotech" where our students are able to study the construction of the technique, methods and modern equipment for preventive maintenance and corrective agricultural equipment.

Projects on the topic "Rostok" and "Interechoproiect":

- Elaboration of new generation separator tubers in collaboration with the Agricultural University of Lugansk and company Sanghang in China (2010).
- Project implementation unit and project administration Moldovan-Japanese 2KR. Elaboration of industrial model of tractor MTZ 920 for the work mechanized in vineyards and orchards (2010).

Expertise / Competences / Technologies / RTD know-how:

Scientific research fields of department:

- Elaboration and implementation in production of seeders and planters, for mechanization in vineyards and orchards, calculation methods and testing, as well as new technologies of cultivation of crops.
- Elaboration and implementation in production of technologies and equipment for testing of fodder preparation equipment, milking technique, agricultural waste processing for obtain renewable energy.

International cooperation experience:

Collaboration Agreements:

- Moldovan-Japanese Centre for staff perfecting in the field of agricultural mechanization, organized by Project implementation and administration unit 2KR;
- Department „Machinery and equipment for Agriculture and Food Industry”, Technical University Gh. Asachi, Iași;
- Institute for scientific research and technological engineering for machinery and agricultural equipment Ion Ionescu de la Brad (ICSITIMUA) BUCHAREST;
- Department „Agricultural machinery”, State Agrarian Technical University of Belarus;
- Department „Exploitation of machinery and tractor park”, Orel State Agrarian University (Russia).

Key words on core competencies:

Mechanization; soil; agriculture.



Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ European Research Council ▪ Future and Emerging Technologies ▪ Marie Skłodowska-Curie actions ▪ Research infrastructures
Industrial Leadership	<ul style="list-style-type: none"> ▪ Innovation in SMEs
Societal challenges	<ul style="list-style-type: none"> ▪ Food security, sustainable agriculture and forestry, marine and maritime and inland water research ▪ Climate action, environment, resource efficiency and raw materials
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Supporting access to international networks for excellent researchers and innovators
Other	<ul style="list-style-type: none"> ▪ Science with and for Society



**UNIVERSITY CENTER OF MOLECULAR BIOLOGY,
THE UNIVERSITY OF THE ACADEMY OF SCIENCES OF MOLDOVA**

Organization contact data:

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Website	www.edu.asm.md

Title and name of the contact person; position:

Rector	Academician, univ. prof. Maria DUCA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The University of the Academy of Sciences of Moldova has been created on the base of the Academy of Sciences of Moldova in order to encourage excellence in science by linking R&D Institutions. The principal activities performed within the institution are educational, research, innovation promotion and management. The main research activities focused on the area of Functional Genetics and Bioinformatics are carried out in the University's Centre of Molecular Biology which absorbs three scientific laboratories: Genomics, Proteomics and Bioinformatics.

Laboratory of Genomics conducts investigations in functional genomics, as an interdisciplinary field (genetics, plant physiology, molecular biology), which enables to understand the integration of physiological functions and developmental programs.

Laboratory of Proteomics assists investigations in the assessment of protein expression changes that occur in a biological system, such as during disease development and progression, stress, male sterility and restoration of fertility, etc.

Laboratory of Bioinformatics realizes a complex analysis of biologic data generated by other laboratories of the Centre, of the information from biologic databases and their statistical analysis.

Staff: 16 researchers, including 1 doctor habilitated and 5 PhD doctors.

CBM has experienced researchers with a solid collection of articles in plant genetics, physiology and breeding and a rich experience of academic mobility as well as young specialists focused on continuous self-improvement.

Expertise / Competences / Technologies / RTD know-how

Elucidation of molecular and physiological mechanisms of host-parasite interaction in the crops; Establishment of the role of gibberellins in the induction of male sterility in sunflower; Gene expression under the ASC-Rf and induced male sterility systems; Identification of molecular markers linked with economically important characters (restoring fertility, heterosis, resistance to biotic and abiotic factors etc.); Assessment of genetic diversity of wild and cultivated populations of different medicinal and aromatic plants.

International cooperation experience

The team of the CMB has participated in:

- Two Tempus educational projects in the field of entrepreneurship and education in partnership with institutions from Germany, Italy, Great Britain, Ireland, Israel, Poland, Russia, Georgia, Bulgaria;
- Two research projects within the bilateral collaboration program between ASM and the Federal Ministry of Education and Research from Germany (in partnership with the Department of Biology of the Erlangen-Nuremberg University and the Institute of Technical Optics of the Stuttgart University);
- A research project within the bilateral collaboration program between ASM and the National Authority for Scientific Research from Romania (The Center of Biological Research "Stejarul");
- A research project within the collaboration program with the Republican Fund for Fundamental Research from Belarus;
- Three CRDF/MRDA projects.

Key words on core competencies

Sunflower; broomrape; resistance; host-pathogen interaction; gene expression.



Horizon 2020 relevant call: area of interest

Excellent Science	<ul style="list-style-type: none">▪ Marie Skłodowska-Curie actions▪ Research infrastructures
Societal challenges	<ul style="list-style-type: none">▪ Food security, sustainable agriculture and forestry, marine and maritime and inland water research▪ Climate action, environment, resource efficiency and raw materials
Spreading excellence and widening participation	<ul style="list-style-type: none">▪ Teaming of excellent research institutions and low performing RDI regions▪ Twinning of research institutions



INSTITUTE OF GENETICS, PHYSIOLOGY AND PLANT PROTECTION

Organization contact data:

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Website	www.igfpp.asm.md/en

Title and name of the contact person; position:

Director	Dr. hab. Vasile BOTNARI
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The institute was formed in 2005 by fusion of the Institute of Genetics, founded in 1985, Institute of Plant Physiology, founded in 1960, and Department of Aromatic and Medicinal Plants of the Institute for maize and sorghum "Porumbeni". In the frame of the institute activate 10 Labs and 3 centers. The **main objectives**: control of the quantitative and qualitative valorous traits; genetic diversity and plant gene pool conservation; genetic and physiological mechanisms for manipulation of the productive processes; creation of plant varieties and hybrids with high productivity, quality and ecological resistance to different agricultural system.

Expertise / Competences / Technologies / RTD know-how:

- Genetic, physiologic, and biochemical aspects of resistance and productivity of various culture (cereals, legumes, vegetables, technical and horticultural cultures), based on endogenous and exogenous potential coordination to the negative influence of the climatic, soil drought, biotic factors.
- Molecular markers for genotyping of varieties and hybrids of tomatoes, corn, soybeans and grapevines.
- Secondary metabolites and their role in biosystems adaptation to stress factors.
- In vitro biotechnology involving microcloning, somatic embryogenesis, callusogenesis.
- Creation of varieties, hybrids of the various cultivated plants (tomato, wheat, barley, soybean, aromatic and medicinal plants) with valuable traits.

International cooperation experience:

2006–2009: INTAS Ref. No. 05–104–7654 Molecular analysis of seedless grapevine genotypes.

2007–2009: NATO CLG, EST 982852. Mitigation of water stress in agricultural soils by bio-indicators.

2008–2009: 08.820.04.24RF. Regulation of biosynthesis of secondary metabolites in cell and plants culture in vitro and in vivo and assessing the influence of these substances on the physiological reactions to the action of abiotic factors (extreme temperatures) and biotic factors (vermin).

2010–2011: 10.820.04.13BF. Morphogenetic, physiological biochemical and bioenergetics features of plants (Triticale, Secalotriticum) on training of productivity in different ecological conditions.

2006–2011: SEEDNet (South East European Development Network on Plant Genetic Resources) Project was financed by (SIDA) between 12 partners in SEE. Conservation and sustainable utilization of vegetal genetic resource from the network of plant genetic resources in SEE.

2010–2011: 0.820.04.07/UA. Complex application of biological surface-active substances, microelements, biocides and microorganisms in grapevine nursery.

Key words on core competencies:

Genetic factors; physiological factors; culture plants; heritability; valuable traits.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions ▪ Research infrastructures
Societal challenges	<ul style="list-style-type: none"> ▪ Food security, sustainable agriculture and forestry, marine and maritime and inland water research ▪ Climate action, environment, resource efficiency and raw materials
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions



**CENTER GENETICS AND BREEDING OF AROMATIC AND MEDICINAL PLANTS,
INSTITUTE OF GENETICS, PHYSIOLOGY AND PLANT PROTECTION**

Organization contact data:

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Website	www.igfpp.asm.md/en

Title and name of the contact person; position:

Head of the Laboratory	Dr. hab. Maria GONCEARIUC
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The research group "Genetics and Breeding of Aromatic and Medicinal Plants" was created in 1998 and in 2006 was reorganized in the Centre Genetics and Breeding of Aromatic and Medicinal Plants. In this Centre activates 13 researches and 2 laboratory assistants. Center is preoccupied of research in the following directions:

- Creation of the new genotypes, hybrids, varieties of aromatic and medicinal plants.
- Testing, breeding, homologation and implementation of the new varieties, hybrids in specialized farms, firms.

Expertise / Competences / Technologies / RTD know-how:

Creation of the new genotypes, hybrids, varieties of aromatic and medicinal plants using the following methods: different methods of hybridization, inbreeding, male sterility; the study of aromatic and medicinal plants biodiversity in the Moldavian wild flora, testing of hybrids, inbreeding and male sterility lines, genotypes through the heterosis determination, determination of essential oil content, quantitative and qualitative analysis of essential oil by GC-MS method.

International cooperation experience:

2001–2011: Contractual agreement of collaboration between: National Institute for Research and Development of Biological Sciences Bucharest, Piatra Neamt branch "Stejarul" Biological Research Centre, Romania and Center Genetics and Breeding of Aromatic and Medicinal Plants Institute of Genetics, Physiology and Plant Protection ASM.

2005–2011: SEEDNet project (South–East European Development Network on Plant Genetic Resources). The participants–working group of 12 countries: Bulgaria, Romania, Moldova, Serbia, Slovenia, Croatia, Montenegro, Macedonia, Bosnia and Herzegovina, Bosnia–Herzegovina–Republics Srpska, Kosovo, Albania.

2009–2010: SEEDNet project: "Genetic Structure of Dalmatian Sage (*Salvia officinalis* L.) Populations: A Model for a Collaborative Research on MAP Genetic Resources".

Key words on core competencies:

Medicinal and aromatic plant; hybrid; varieties; essential oil; valuable traits.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions ▪ Research infrastructures
Societal challenges	<ul style="list-style-type: none"> ▪ Food security, sustainable agriculture and forestry, marine and maritime and inland water research ▪ Climate action, environment, resource efficiency and raw materials
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions

**BIOENERGETICS LABORATORY,
INSTITUTE OF GENETICS, PHYSIOLOGY AND PLANT PROTECTION**

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Website	www.igfpp.asm.md/en

Title and name of the contact person; position:

Head of the Laboratory	Dr. hab. Nicolae BALAUR
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Laboratory was founded by a corresponding member of the Academy of Science of Moldova, Professor Balaur Nicolae in 1982. Lab today includes 7 units, of which 4 scientists and a master.

Fundamental and applied researches are directed towards:

- Studying energy production in C3 and C4 plants.
- Evaluation of draught and high temperatures on the production process.
- Studying the change of CO₂, energy efficiency of photosynthesis in C3 and C4 plants, ways to bypass the photorespiration and reconstruction of C3 plants.

Expertise / Competences / Technologies / RTD know-how:

Study of CO₂ exchange at active photosynthetic organs discovered the phenomenon of apparent photorespiration absence at the C3 plants reproductive organs.

Later (Balaur, Vorontov, Mereniuc, 2012 – in press), this new phenomenon for C3 plants, has reveal both the stem and leaf sheath. In such a way has been established that the apparent photorespiration at C3 plants is characteristic only for leaves. These new results imply that for C3 plants are typical two mechanisms of CO₂ assimilation: one located in leaves, other – located in the reproductive organs, leaf sheath and stem.

Apparent photorespiration absence at C3 plants provides new opportunities for reconstruction of C3 plants to improve the assimilation of CO₂.

International cooperation experience:

2006–2008: Bilateral project with the Russian Fund of Fundamental Research (RFFI) “Study the influence of soil drought on bioenergetics components of the production process of wheat plants with different levels of productivity”.

2010–2011: Bilateral project with Republican Fond for Fundamental Research of Belarus “The morphogenetic, physiological, biochemical and bioenergetic features at hetero-plasmatic hexaploid tritcale plants in different environmental conditions”.

2012–2013: International– Bilateral Project of the Program STCU–ASM Joint Initiative for Research and Development “PEPS, RUBPC genes expression on chloroplast ultra structure of C3, C4 plants in apparent photorespiration absence”.

Key words on core competencies:

C3 plants; C4 plants; photorespiration; CO₂ exchange; C3 plants reconstruction.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions ▪ Research infrastructures
Societal challenges	<ul style="list-style-type: none"> ▪ Food security, sustainable agriculture and forestry, marine and maritime and inland water research ▪ Climate action, environment, resource efficiency and raw materials
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions



THE LABORATORY OF VEGETAL BIOTECHNOLOGIES, INSTITUTE OF GENETICS, PHYSIOLOGY AND PLANT PROTECTION

Organization contact data:

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Website	www.igfpp.asm.md/en

Title and name of the contact person; position:

Head of the Laboratory	Dr. Svetlana SVEREA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The laboratory was founded in 1985. In frame of the Lab activate 15 collaborators, including 1 professor, 4 PhD, 2 engineers and 4 Masters of Sciences.

Fundamental and applied researches are directed towards:

- Experimental mutagenesis based on solitary application of plant viruses or in combination with gamma radiation as inducers of genetic variability.
- Induction and evaluation of somaclonal variation exhibited by the explants nature and genotypic peculiarities of cultivated species (potato, cabbage, wheat, barley).
- Production and multiplication of virus free materials (potato, grapevine).
- In vitro technology of somatic embryos safe (seedless grapevine varieties).

Expertise / Competences / Technologies / RTD know-how:

Through the in vitro methods and experimental mutagenesis based on application as inductor of variability the viruses along or in combination with gamma radiation, had been established the possibility of creation of the new form of culture plant (tomato, barley, wheat) with valorous agronomic traits, non-specific for parental forms.

Based on investigations over 15 years had been developed the algorithms of production of virus free materials for a number of crops such as potatoes, lavender, stevia and grapevine.

International cooperation experience:

2006–2009: INTAS Ref. No. 05–104–7654, “Marker-assisted breeding of new seedless grapevine varieties with resistance to stressful environmental conditions”.

2009–2011: 4073 STCU, “Creation of grapevine virus-free collection of local cultivars with resistance to environmental stress factors”.

2012: 5383 STCU/ASM, “Direct somatic embryogenesis as efficient way of virus elimination from seedless grapevine”.

Key words on core competencies:

Plant viruses; genetic variability; somaclonal variation; in vitro culture; induced variability.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions ▪ Research infrastructures
Societal challenges	<ul style="list-style-type: none"> ▪ Food security, sustainable agriculture and forestry, marine and maritime and inland water research ▪ Climate action, environment, resource efficiency and raw materials
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions

THE LABORATORY OF ORGANIC SYNTHESIS, INSTITUTE OF CHEMISTRY

Organization contact data:

Address	3, Academiei str., Chisinau, MD-2028, Republic of Moldova
Telephone	(+373-22) 73-97-54
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E-mail	flmacaev@cc.acad.md
Website	www.los.asm.md/ ; www.chem.asm.md/node/86

Title and name of the contact person; position:

Head of the Laboratory	Dr. hab. Fliur MACAEV
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The laboratory is specializing in various aspects of new organic materials chemistry. At the present time, our projects are directed to the discovery of new catalysts (metal-mediated and metal-free) for asymmetric synthesis, mechanistic investigations of reactions which proceed with high levels of regio- and stereoselectivity. Another part of our investigations are water and ionic liquids (including magnetic ones) which are used as green alternatives to solvents, catalysts, extractors. In our laboratory we provide total synthesis of biologically active compounds, including those naturally occurring, and study of structure-activity relationships. As well, laboratory has got experience in technology transfer projects in the field of plastic waste recycling and recycling of secondary products after active substances extraction from raw materials.

Expertise / Competences / Technologies / RTD know-how:

The main research domains of our laboratory are stereoselective synthesis and new catalysts for it, ionic liquids as green alternatives to the solvents and electrolyte for the solar cells. Besides, our laboratory is one of the leading research groups in the post USSR states in the field of chemistry of natural products. Over the years, we have accumulated a broad expertise in synthetic and medicinal chemistry. We are capable of conducting the total synthesis and the analysis of the obtained substances.

Nowadays, we are able to start research focused on chemistry of novel optically and thermoreversible spiran salts as new synthetic stratagem for the rapid discovery of new materials for chemical function, molecular ferromagnetic, memories and switches etc.

International cooperation experience:

Our current projects are summarized below:

- Water as medium for chemotherapeutic substances construction.
- Nano-encapsulation of anti-TB drugs for targeted delivery.
- New antioxidants for mitigation of oxidative stress effects in hyperglycemia.
- From natural compounds to their analogues and into the pre-clinic evaluation of novel compounds with antituberculosis properties.
- Design and development of diffractive optical elements based on azopolymers for application in biophotonics and optoelectronics.

Key words on core competencies:

Ionic liquids; catalysts for asymmetric synthesis; regio and stereoselective reactions; biologically active products.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions ▪ Research infrastructures
Societal challenges	<ul style="list-style-type: none"> ▪ Climate action, environment, resource efficiency and raw materials
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions



THE LABORATORY OF TERPENOID CHEMISTRY, INSTITUTE OF CHEMISTRY

Organization contact data:

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Telephone	(+373-22) 73-97-69
Fax	(+373-22) 73-97-75
E-mail	nicon.ungur@gmail.com
Website	www.chem.asm.md/lct/en

Title and name of the contact person; position:

Head of the Laboratory	Dr. hab. Nikon UNGUR
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The main important result

In basic field the cleavage products of a series of accessible labdane diterpenoids have been studied. The absolute configuration of a range of labdane diterpenoids has been revealed. Original methods for the preparation of a large number of drimanic sesquiterpenoids and norlabdanic derivatives have been elaborated. The general structural selective and stereospecific ways of the biomimetic synthesis of cyclic mono-, sesqui-, di- and sesterterpenoids have been realized by superacidic cyclization of the aliphatic precursors. The structural and stereochemical features, mechanism and restrictions of this reaction have been determined. The novel methods and reactions of a general importance for the preparation of tetrahydrofurans, alcohols, olefins, glycols and α,α -dienones have been elaborated. An original theory of the dependence on the ambergris and musk fragrance of the structure of organic compounds was proposed. The results of these researches constitute the content of more than 350 publications.

Practical elaborations

In applicative aspect the methods have been elaborated and implemented for the redaction of norambreinolide; the preparation of new products such as ambrol, chetoxide, sclareoloxide, and ionoxide; the sclareol isolation and the obtaining of some plants essential oils. The methods for preparation of an analogue of ambrox, an ozonolitic synthesis of the norambreinolide and sclareoloxide, of a series of more than 20 compounds having strong ambergris odour with norlabdanic and homotrichinanic skeletons were elaborated. On the basis of these compounds a range of original flavouring compositions suitable for tobacco aromatization have been prepared and implemented at the Chişinău tobacco factory. A series of drimanic compounds with biological activity were synthesized. These elaborations have been protected by 49 patents. The practically important compounds have been used in perfumery and tobacco industry, in the production of essential oils and now the investigations are directed to the obtaining of compounds for pharmacology.

Expertise / Competences / Technologies / RTD know-how:

- Superacidic isomerisation.
- Ozonolysis.
- Target oriented synthesis.

International cooperation experience:

1998–2000: INTAS collaborative project "Total and semi synthesis of bioactive terpenoids and sterols". Individual fellowship awards: NATO–CNR, MRDA/CRDF, Alexander von Humboldt Foundation scholarship.

Scientific contacts with:

- "P. Poni" Institute of Macromolecular Chemistry, Iaşi, Romania;
- Institute of Organic Chemistry „C.D. Nenişescu”, Rumanian Academy, Bucharest;
- Institute of Bioorganic Chemistry of the National Academy of Science of Belorussia, Minsk;
- Agriculture University, Wageningen, Netherlands;
- Center for Marine Sciences (CMS), University of North Carolina at Wilmington;
- Departamento de Química Orgánica, Facultad de Farmacia, Universidad de Valencia, Valencia, Spain;
- Istituto di Chimica Biomolecolare, CNR, Pozzuoli (Na), Italy;
- Institute of Biochemistry and Biophysics, Polish Academy of Sciences, A. Pawin Warszawa, Poland;
- University of Leipzig Institute of Organic Chemistry 04103 Leipzig (Germany);



- Laboratoire de Synthèse Et Etude de Systèmes à Interêt Biologique et Laboratoire de Photochimie Moléculaire et Acromoléculaire, Université Blaise Pascal, Aubière Cedex, France;
- Laboratorio di Chimica Bioorganica Università degli Studi di Trento, Italia;
- Dipartimento di Medicina, Chirurgia e Odontoiatria Facoltà di Medicina e Chirurgia, Università degli Studi di Milano, Milano, Italia.

Key words on core competencies:

Isopenoids; organic synthesis; natural products; terpenes.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions ▪ Research infrastructures
Societal challenges	<ul style="list-style-type: none"> ▪ Climate action, environment, resource efficiency and raw materials
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions



THE LABORATORY OF ECOLOGICAL CHEMISTRY, INSTITUTE OF CHEMISTRY

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E-mail	mihai_ciobanu2002@yahoo.co.uk
Website	www.chem.asm.md

Title and name of the contact person; position:

Head of the Laboratory	Dr. hab. Mihail CIOBANU
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

It was set up on 6 April 1962 under the name of the Laboratory of Mineral Materials later renamed as the Laboratory of Mineral Materials and Water Chemistry, and recently the Laboratory of Ecological Chemistry. The laboratory was founded by Nicolai Labanov (1897-1972), Doctor of Chemistry and then modernized by Valeriu Ropot (1934-2002), Doctor of Chemistry, laureate of the State Prize and nowadays - by Tudor Lupașcu, corresponding member, doctor habilitate in chemistry, professor, laureate of the State Prize.

Main results

The Laboratory carried out the synthesis of activated carbons with discount properties from vegetable raw materials for the protection of the environment and humans.

A novel preparation from winemaking waste antimicrobial and antifungal properties was obtained.

Expertise / Competences / Technologies / RTD know-how:

- The technology of the production of activated carbons from fruit stones, grape seeds and shell nuts by physico- chemical and chemical methods was developed.
- The mechanism of immobilization of organic and inorganic pollutants on the carbonic and mineral sorbents was established.
- The procedure and mechanisms of accumulation and migration of pollutants to the principal aquatic objects of the Republic of Moldova were highlighted.
- Novel construction materials based to waste materials were elaborate and implemented.

International cooperation experience:

- Development of technologies for the synthesis of activated carbons and activation of mineral sorbents;
- Determination of adsorption mechanisms of pollutants to carbonic and mineral sorbents;
- Elaboration of novel methods and technological procedures to make underground surface waters potable, purification of wastewater, evaluation of agricultural by-products;
- Distinguishing mechanisms of migration and transformation of pollutants in water-substance systems and deep bottom suspension sediments;
- Investigation in the chemistry of construction materials (insulation and dry mix).

Key words on core competencies:

Isopenoids; organic synthesis; natural products; terpenes.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions ▪ Research infrastructures
Societal challenges	<ul style="list-style-type: none"> ▪ Climate action, environment, resource efficiency and raw materials
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions



INSTITUTE OF CROP PRODUCTION "PORUMBENI"

Organization contact data:

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Fax	(+373 22) 24-42-41
E-mail	ifporumbeni@rambler.ru
Website	www.porumbeni.md

Title and name of the contact person; position:

Director	Dr. Pintilie PIRVAN
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Institute now is engaged in the definition of quality seed material (biological purity, germination and moisture), the biochemical composition of hybrids SPC Porumbeni, testing their resistance to temperature stress. On the basis of in vitro culture creates a new initial breeding material.

In the past five years the institute has developed 72 inbred lines, of which 21 are used in certified hybrids. They were created and tested 4877 hybrids in different environments, 5 hybrids were promoted for State testing in R. Belarus and R. Moldova.

Expertise / Competences / Technologies / RTD know-how

Potential for research in the direction of biochemistry, physiology, biotechnology, agrochemistry, agricultural production and water quality evaluation.

International cooperation experience:

Cooperation research is performed in several directions:

- Bilateral exchange of biological material.
- Developing and testing corn hybrids.
- Breeding of testers to create three way crosses.
- Testing foundation seeds.
- Organizing demonstration plots.

In cooperation with researches from Republic of Belarus was developed four early corn hybrids.

Bilateral project with the Institute of Genetics and Cytology Belorussian Academy of Science "Biological purity identification of parental forms and hybridization of first generation corn hybrids by biochemical-molecular technologies".

Key words on core competencies:

Hybrid; genetic material; food maize; testing; corn, germplasm; genotypes; inbred lines.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions ▪ Research infrastructures
Societal challenges	<ul style="list-style-type: none"> ▪ Climate action, environment, resource efficiency and raw materials
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions



INSTITUTE OF MICROBIOLOGY AND BIOTECHNOLOGY

Organization contact data:

Address	1, Academiei str., Chisinau, MD-2028, Republic of Moldova
Telephone	(+373-22) 73-98-78
Fax	(+373-22) 72-57-54
E-mail	acadrudic@yahoo.com
Website	www.imb.asm.md

Title and name of the contact person; position:

Director	Acad. Valeriu RUDIC
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Institute of Microbiology and Biotechnology (IMB) is an academic centre with 63 collaborators: 3 members of the Academy of Sciences of Moldova (10 Doctor Habil. and 27 Ph.D. Doctors). IMB is devoted to applied and basic research in the field of general and industrial microbiology. The Institute hosts 9 research laboratories, with their **main topics being:**

- The conservation and efficient utilization of microbial resources.
- Improvement of the physiologic–biochemistry potential of microorganisms as biotechnological objects.
- Biodegradation activities of microorganisms and symbiotic relations in biological models.
- Elaboration of production technologies of the bioactive preparations designated for use in agriculture and medicine, food, pharmaceutical and cosmetics.

Expertise / Competences / Technologies / RTD know-how:

- Improvement of the physiologic–biochemistry potential of microorganisms as biotechnological objects.
- Elaboration of production technologies of the bioactive preparations designated for use in agriculture and medicine, food, pharmaceutical and cosmetic industry.
- Conservation and efficient utilization of the microbial resources.

International cooperation experience:

2010–2012: Bilateral project with Romania “Bioaccumulation and recuperation of metallic micro compounds from sludge obtained by solubilization of uranium using the cyanobacteria and microalgae”, No. 434.

2006–2009: INTAS “Development of Combined Technologies for the decontamination of organic pollutants from aquatic compartments: use of solar energy and immobilized cells (DECOTECH)”.

2013–2015: FP7 MCA IRSES “Nutritional Labeling Study in Black Sea Region Countries” (NUTRILAB).

- **Key words on core competencies:**

Microbiology; microorganisms; xenobiotransformation; depositary.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions ▪ Research infrastructures
Societal challenges	<ul style="list-style-type: none"> ▪ Climate action, environment, resource efficiency and raw materials
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions



**DEPARTMENT OF SPECIAL ZOOTECNHY, FACULTY OF ANIMAL HUSBANDRY AND BIOTECHNOLOGY,
STATE AGRARIAN UNIVERSITY OF MOLDOVA**

Organization contact data:

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E-mail	eremianicolai@rambler.ru
Website	www.uasm.md

Title and name of the contact person; position:

Head of Department	Dr. hab. Nicolae EREMIA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Department of Special Zootechny has a beekeeping laboratory and apiary with 30 families within the Faculty of Animal Sciences and Biotechnology at the State Agrarian University of Moldova. The department is led by the professor Nicolae Eremia.

There are five collaborators that activate in this laboratory: 1 university professor, 4 PhD doctor –researchers, 2 post university students, and 2 laborants.

In the last five years 74 scientific articles, two books, and nine inventions have been published. These works have received one golden, two silver, and one bronze medal at Mold Expo and Info-Invent events.

Expertise / Competences / Technologies / RTD know-how:

Professor Nicolae Eremia is an independent expert at the Academy of Science of Moldova, and expert at the National Council for Certification and Accreditation concerning problems of Zootechny and Veterinary Medicine.

International cooperation experience:

The Institute of Experimental Veterinary S.N. Vishelevski, Belarus.

University of Agricultural Sciences and Veterinary Medicine, Iasi, Romania.

University of Agricultural Sciences and Veterinary Medicine, Bucharest, Romania.

Key words on core competencies:

Microbiology; microorganisms; xenobiotransformation; depositary.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> Marie Skłodowska-Curie actions Research infrastructures
Societal challenges	<ul style="list-style-type: none"> Climate action, environment, resource efficiency and raw materials
Spreading excellence and widening participation	<ul style="list-style-type: none"> Teaming of excellent research institutions and low performing RDI regions Twinning of research institutions





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INSTITUTE OF APPLIED PHYSICS

Organization contact data:

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E-mail	director@phys.asm.md
Website	www.phys.asm.md/

Title and name of the contact person; position:

Director	Dr. Mihai MACOVEI
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Institute of Applied Physics, founded in 1964, is a state run institution of science and innovation. The Institute is founded by the Academy of Sciences of Moldova belonging to its Section of Exact and Economic Sciences. The main objectives of the Institute are carrying out research in fundamental and applied physics. Scientific potential: currently the Institute employs about 230 persons, among them - 165 researchers, 26 doctors-habitate and professors, 90 Ph.D.

Expertise / Competences / Technologies / RTD know-how:

The main research areas of the Institute are:

- fundamental and applied research into physics and physico-chemistry of condensed matter: crystalline, noncrystalline and nanostructured materials, atoms and nuclei; electronics and quantum optics, design of high technologies and multifunctional electronic, optoelectronic and photonic devices;
- fundamental and experimental research into using electricity as a catalyst in heat and mass transfer, in cavitation, in electro-floatation and electro-plasmolysis; modification of surfaces of materials by electro-physical and electrochemical methods; development of high technologies and up-to-date techniques.

International cooperation experience:

Our research-and-development activity is an international enterprise. We regularly collaborate with colleagues at research institutes and universities around the world – carrying out joint bi-lateral and multilateral projects, working on joint research, reviewing scientific papers, organizing and participating in conferences and seminars. Our view is that collaboration can make wonders, geared by shared interests of scientists and engineers and in the service of our countries. Our on-going international projects:

- NASA/GSFC 614.4 Aerosol Robotic Network - Aerosol Robotic Network (AERONET).
- FP7-PEOPLE-2010-IRSES. International cooperative programme for photovoltaic kesterite based technologies (PVICOKEST).
- FP7-PEOPLE-2011-IRSES - Training and collaboration on material development and process improvements in oil and sugar production (OIL&SUGAR).
- FP7-AAT-2012-RTD-LO - Tangential Impulse Detonation Engine (TIDE).
- FP7-2013-NMP-ICT-FOF - European Innovation Ecosystem as a gate for supporting FoF Research and Experimentation (I4MS-GATE).
- FP7-INCO-2013-9 - Reinforcing cooperation with Eastern Partnership countries on bridging the gap between research and innovation for inclusive and secure societies (SECURE-R2I).
- SCOPES IZ73ZO_152404 - Experimental and Theoretical Study of Bistable Magnetic Materials Based on 3d and 3d-4f Exchange Coupled Clusters: Prospects for Practical Applications.
- SCOPES IZ73ZO_152734 - Spin-liquid and Spin-ice States in Frustrated Rare Earth and Transition Metal Spinels.
- STCU 6011 - The electrophysical processing of whey for obtaining of healthy and environment products: technology and installations.
- STCU 5985 - Cu₂ZnSnS₄ for environmentally friendly converters of renewable energy.
- ASM – BMBF 13.820.05.07/GF - Controlul dinamicii cuantice a sistemelor de atomi artificiali (CONATOM).



- ASM –BMBF 13.820.15.09/GA - Transferul de sarcină în amestecuri de gaze ale heliului la temperaturi și presiuni înalte în condițiile descărcării coronă.
- ASM –BMBF 13.820.15.10/GA - Utilizarea de Microscopul Holografic Digitale pentru Studiul Țesuturilor Biologice utilizând Lab VIEW.
- STCU-ASM 14.820.16.02.04.STCU.F/5929 - Orbital Effects in New Generation of Single-Molecule Magnets: Elaboration of Rational Design Criteria.
- ASM - State Agency on Science, Innovations and Informatization of Ukraine 14.820.18.02.02/U - Tehnologie, utilaje și materiale noi pentru durificarea și recondiționarea prin scânteii electrice a organelor de mașini și a sculelor.

ASM - State Agency on Science, Innovations and Informatization of Ukraine 14.820.18.04.05/U - Sinteza, proprietățile, structura moleculară și cristalină a liganzilor receptorilor benzodiazepinici și fibrinogenici (SARBEFIR).

Key words on core competencies:

Theoretical physics; applied physics; electrochemistry; materials science.

Horizon 2020 relevant call: area of interest:

Excellent Science	▪ European Research Council
Industrial Leadership	▪ Leadership in enabling and industrial technologies (LEIT)
Societal challenges	▪ Food security, sustainable agriculture and forestry, marine and maritime and inland water research
Spreading excellence and widening participation	▪ Teaming of excellent research institutions and low performing RDI regions
Other	▪ Science with and for Society ▪ Euratom



**HEAT AND MASS TRANSFER, ELECTROHYDRODYNAMICS GROUP,
INSTITUTE OF APPLIED PHYSICS, ACADEMY OF SCIENCES OF MOLDOVA**

Organization contact data:

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Website	www.phys.asm.md/

Title and name of the contact person; position:

Senior scientific researcher	Dr.hab. Fiodor GROSU
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Institute of Applied Physics of the Academy of Sciences of Moldova (IAP ASM) established on the March 9, 1964 is the only scientific institution incorporated in the Academy of Sciences where research in the physics and engineering are carried out. The scientists of the Institute contributed much in the development of science and industrial sphere in the Republic of Moldova. The scientific staff consists of 213 researches including 26 Doctors Habilitat and 93 Doctors. Two scientific paths are defined by the status of the Institute of Applied Physics. First, the search for new areas of application of electricity for the purpose of improving existing highly efficient processes and creating new processes, the creation of technical devices to implement these processes. Second, experimental and theoretical investigations of the physical and physicochemical properties of condensed media subjected to different external actions, and the production and study of crystalline and amorphous substances with semiconductor, semimetallic, superconducting, and other properties for the purpose of creating electronic devices. These trends have been developed in valuable ways and have received international recognition.

Expertise / Competences / Technologies / RTD know-how:

General scientific interests. Heat, mass and charge transfer phenomena in dielectric (ideal) and low conducting liquids under the influence of external electric fields. Applied aspects of investigations: enhancement and control of heat transfer processes; electric separation of heterogeneous systems, in particular electric purification of liquids; energy conversion: electrical energy into mechanical energy (electrohydrodynamic (EHD) pumps), electrical and heat energy into mechanical energy (heat EHD pumps), and mechanical energy into electrical energy (EHD generators). Related questions of atmospheric electricity and EHD interaction of media complicated by the presence of magnetic fields are also considered. Participants: acad. ASM, dr.hab. M.K. Bologa, dr.hab. F.P. Grosu, dr. I.V. Cojevnicev, dr. O.V. Motorin, dr. O.I. Mardarskii, A.A. Policarpov.

Achievements for the last 5 years. Theoretical investigations: Fundamentals of theory of low conducting liquid dielectric electrification and theory of electroconvective heat- and mass transfer (electropurification) have been elaborated. Calculation of EHD energy converters and EHD flows, in particular rotation of dielectric liquids in crossed electric fields and rotation of low conducting liquids in crossed electric and magnetic fields, have been conducted. Experimental current-voltage characteristics of corona discharge in various gases have been generalized by similarity theory methods. Experimental investigations: Heat transfer with phase change at condensation of vapor-air mixture in an electric field, in EHD heat pipe, as well as the boiling in electric field have been investigated. Various EHD pumps for pumping dielectric liquids and cooling of electronic devices and computers have been studied.

International cooperation experience:

State Saint-Petersburg University, Russia; Minsk State University, Belarus; Karlsruher Institut für Technologie, Germany.

Key words on core competencies:

Electrohydrodynamics; electroconvection; heat- and mass transfer; charge transfer; corona discharge.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ European Research Council ▪ Research infrastructures
Societal challenges	<ul style="list-style-type: none"> ▪ Secure, clean and efficient energy



**LABORATORY OF THERMAL AND HYDRODYNAMIC PROCESSES, COMPREHENSIVE
ELECTROPHYSICAL PROCESSING OF BIOLOGICAL MEDIA
INSTITUTE OF APPLIED PHYSICS, ACADEMY OF SCIENCES OF MOLDOVA**

Organization contact data:

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Website	www.phys.asm.md/

Title and name of the contact person; position:

Senior scientific researcher	Dr. Elvira VRABIE
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The group 'Comprehensive electrophysical processing of biological media' works within the Laboratory of Thermal and Hydrodynamic Processes of the Institute of Applied Physics of the Academy of Sciences of Moldova. The Laboratory and the group have accumulated vast experience in the fields of heat and mass transfer processes and of food processing, including dairy by-products. The laws of electrophysical actions on biological media have been determined, as well as the mechanisms of their interaction with heterogeneous systems, which are today of the major scientific and practical importance, some advantages of which are evidenced by the elegance and efficiency of electrophysical technologies and installations.

The Laboratory staff is: 1 academician (Laboratory Chief), Bologa Mircea Chiril, dr hab. (the second, the highest doctoral degree in Moldova), Vrabie Elvira, Gonciaruc Valeriu, doctors of sciences (one of them is the Leader of this project); Stepurina Tatiana, Policarpov Albert, Vutcareva Irina, highly qualified researchers and engineers; Paladii Irina, Romanenco Vasile young scientists/Ph.D. candidates.

The members of the Laboratory have 4 patents and many publications in the respective areas.

Distinctions:

1. Silver medal, Exhibition, AGEPI, Chisinau, 2009;
2. Bronze medal, Exhibition, EURECA, Bruxelles, 2011;
3. Medal and Diploma for the patent "Process for whey processing", Exhibition, Chim-Invent, Iasi, 2013;
4. Medal and Diploma for „Diaphragm Electrolyzer”, Exhibition, Chim-Invent, Iasi, 2013.

Expertise / Competences / Technologies / RTD know-how:

Activation of biological media; isomerization of lactose into lactulose; whey fractionation; development of electrolyzers for various destinations

International cooperation experience:

2013–2014 Transfer of charge in mixtures of helium gas at high temperature and pressure in the conditions of the corona discharge- 13.823.15.09/GA(ASM-BMBF).

2013–2015 Tangential Impulse Detonation Engine (**TIDE**) - FP7-AAT-2012-RTD-L0.

Key words on core competencies:

Wasteless electrophysical technology; proteins and amino acids; dairy by-products; proteins recovery; protein-mineral complexes.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Future and Emerging Technologies ▪ Marie Skłodowska-Curie actions
Societal challenges	<ul style="list-style-type: none"> ▪ Food security, sustainable agriculture and forestry, marine and maritime and inland water research
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions



LABORATORY OF INTENSIFICATION OF THE EXTRACTION PROCESS BY VIRTUE OF ULTRASONIC AND/OR CAVITATION ACTION, INSTITUTE OF APPLIED PHYSICS, ACADEMY OF SCIENCES OF MOLDOVA

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Title and name of the contact person; position:

Senior scientific researcher	Dr. Petru DUMITRAS
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Institute of Applied Physics of the Academy of Sciences of Moldova (IAP ASM) established on the March 9, 1964 is the only scientific institution incorporated in the Academy of Sciences where research in the physics and engineering are carried out. The scientists of the institute contributed much in the development of science and industrial sphere in the Republic of Moldova. The scientific staff consists of 213 researchers including 26 Doctors Habilitat and 93 Doctors.

Two scientific paths are defined by the status of the Institute of Applied Physics. First, the search for new areas of application of electricity, hydrodynamics and hydroacoustics for the purpose of improving existing highly efficient processes and creating new processes, the creation of technical devices to implement these processes and the introduction of these devices into the economy. Second, experimental and theoretical investigations of the physical and physicochemical properties of condensed media subjected to different external actions, and the production and study of crystalline and amorphous substances and semiconductor, semimetallic, superconducting, and other properties for the purpose of creating electronic devices. These trends have been developed in valuable ways and have received international recognition.

Expertise / Competences / Technologies / RTD know-how:

Hydroacoustic and cavitation effects and their influence on the physicochemical processes on the phase interfaces in the systems liquid-liquid, liquid-solid, liquid-liquid-gas and liquid-solid-gas were studied with the aim to intensify technological processes and to develop highly efficient processes and equipment.

The results of ultrasonic and hydroacoustic research are used in the technological processes in the textile and food industry. An ultrasonic cavitation technology was developed that increases the yield of grape juice via the pulp treatment by powerful ultrasonic vibrations. The following processes were also elaborated: an efficient hydroacoustic cavitation technology for preparation of a starch size and ultrasonic cavitation method for bleaching and washing fabrics, an efficient bi-frequency cavitation method and installation for production of finely dispersed stable fruit and vegetable juices with pulp where all the valuable nutritive components - vitamins and flavoring agents - are preserved, which increases the nutritive value of the end product. The research into the influence of cavitation on various processes in liquid media and the experience gained in the Laboratory concerning development of novel technological processes and devices give evidence that it is expedient to study the possibility to use cavitation effects in industrial scale. This will be a step to advanced efficient technologies.

International cooperation experience:

The team researchers perform joint research works related to the utilization of ultrasonic and/or cavitation fields for intensification of various technological processes with their colleagues from the Southern Regional Research Center, Agricultural Research Service (USDA-SRRC-ARS), USA, New Orleans, Louisiana, Moscow Institute of Steel and Alloys, Institute of Solid State Physics of the Russian Academy of Sciences, and Iasi Technical University. In the framework of this collaboration various bilateral research projects were fulfilled.



Key words on core competencies:

Ultrasound; cavitation; extraction; dispergation; homogenization.

Horizon 2020 relevant call: area of interest:

Excellent Science	▪ Future and Emerging Technologies
Societal challenges	▪ Food security, sustainable agriculture and forestry, marine and maritime and inland water research
Industrial Leadership	▪ Leadership in enabling and industrial technologies (LEIT)
Spreading excellence and widening participation	▪ Twinning of research institutions
Other	▪ Science with and for Society



**MATERIALS FOR PHOTOVOLTAIC AND PHOTONICS LABORATORY,
PHOTONICS GROUP, INSTITUTE OF APPLIED PHYSICS**

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Website	www.phys.asm.md/

Title and name of the contact person; position:

Senior scientific researcher	Dr. Elena ACHIMOVA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The research profile of the Photonics group is "Physics and engineering of non-crystalline materials, photonic and optoelectronic devices". The team carries out the study of optoelectronics and optical sensors, holography, holographic interferometry, new phenomena concerning photo-induced absorption and light amplification in chalcogenide glasses and polymers, as well as elaboration of registration media and holographic information technologies. Traditional developing branch of optics is variety interferometry techniques which are applied as for research as industrial purposes. The Photonics group expertise in the field is proved by the following implemented projects: the grant "Composite structures on the nanometric scale on the base of organic/inorganic materials for luminescent and diffraction structures" in the framework of the State Program of the RM "Nanotechnologies and nanomaterials"; and the institutional project "Sensors and optoelectronic systems on the base of non-crystalline materials and interferometric methods". The leading researchers of group during their work at the Mechanical Department of the Polytechnic University of Ancona (Italy) took part as leading researchers in EC project 5th FWP EVK4-CT 2002-00096 LaserACT "Laser Multitask Non-destructive Technology in Conservation Diagnostic Procedures", EC contract GLASSTECH" n. IPS-2001-42141 "Development of optical metrology for glass quality control", EC contract "MEPOS" n. COOP-CT-2004-507747 "Laser sensor set-up for measuring of wood samples".

Among the grants in which the group participated are: EC project INTAS-Moldova "The role of native defects and impurity atoms in broad-band excitation of light emission from rare-earth additives in chalcogenide glasshosts"; 2 projects with USA (CRDF/MRDA) "Development of the novel registration media for recording of optical diffraction security patterns by combined techniques of optical holography and e-beam lithography" and "Rare-earth dopant additives and photo-structural transformations in chalcogenide glasses"; 2 project with Russia (RFFI/Moldova) "Elaboration and product optical diffractive elements and systems in nano/micro dimensions with great capacities" and "Application of track -membranes as template for synthesis of nanomaterials based on polymers with electro conductive and non-linear optical properties"; the grant with Belarus (FCFB/Moldova) "Obtaining and investigation of polymer nanocomposites with controllable molecular structure".

Expertise / Competences / Technologies / RTD know-how:

Chalcogenide glass semiconductors/Optical image processing/ Interferometry/Digital holographic microscope.

International cooperation experience:

1. EC contract FP7-INCO-2013-9 "Reinforcing cooperation with Eastern Partnership countries on bridging the gap between research and innovation for inclusive and secure societies".
2. EC contract FoF-ICT-2013.7.2 "European Innovation Ecosystem as a gate for supporting FoF Research and Experimentation".
3. Bilateral Moldavian-Germany project "Digital Holographic Microscope for Biological Tissues Investigation with LabVIEW program".
4. CRDF project "Superimposed holograms".

Key words on core competencies:

Optoelectronics; non-crystalline materials; holography; diffraction optical elements.



Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none">▪ European Research Council▪ Marie Skłodowska-Curie action
Societal challenges	<ul style="list-style-type: none">▪ Food security, sustainable agriculture and forestry, marine and maritime and inland water research▪ Health, demographic change and wellbeing▪ Secure societies - Protecting freedom and security of Europe and its citizens
Industrial Leadership	<ul style="list-style-type: none">▪ Innovation in SMEs
Spreading excellence and widening participation	<ul style="list-style-type: none">▪ Twinning of research institutions
Other	<ul style="list-style-type: none">▪ Science with and for Society



LABORATORY OF QUANTUM PHOTONICS, INSTITUTE OF APPLIED PHYSICS

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Title and name of the contact person; position:

Senior scientific researcher	Dr. Elena ACHIMOVA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Quantum Photonics Laboratory (former Quantum Coherences and Quantum Nano-Photonics Group) is a new, recently formed (2015) division of the Institute of Applied Physics, with the aim to carry out studies and theoretical modelings of the phenomena of quantum coherence and nanophotonics.

Our goal is to develop theories describing and predicting new effects in various nano- and micro-systems interacting with intense (non-)coherent radiation, able to form the basis of various practical applications:

1. New effects in quantum optomechanical systems with nano-resonators interacting with electric / magnetic / electromagnetic field [e.g. quantum cooling, detection of photons and their correlation with the vibrations, ultra-weak signal detection etc.].
2. New phenomena in systems consisting of artificial atoms (quantum dots, quantum wells etc.) interacting with an acoustic and/or electromagnetic field(s), with emphasis on the role of interactions between the particles, quantum coherence and interference, the role of phonons etc. [e.g. phonon lasers and quantum phonon statistics, fluctuations in the phonon squeezed states etc.].
3. Quantum dissipation and their manipulation; crystals formed of photons etc.; condensation of photons.
4. Control and manipulation of excitations in quantum atomic lattices, biomaterials or optical / mechano-optical microcavities and so forth.

Laboratory staff: 6 persons, among them 1 Dr.Sci. and 3 Ph.D. Research experience (since group formation in 2013): 2 local and 1 international grants; 10 papers in journal with IF.

Expertise / Competences / Technologies / RTD know-how:

The head of laboratory worked for many years in the research group of Prof. C.H. Keitel, Max-Planck Institute for Nuclear Physics, Germany. During last 5 years he has co-authored more than 20 scientific articles in international journals with IF. Worth to mention among the obtained results: theory of formation of ultra-short pulses in the EUV lasers; development of a theoretical base of cooling of the quantized electronic circuits; determination of Kerr-type nonlinearities; theoretical models of photon scattering at high intensities of optical pumping; raising of photoionization intensity in materials; modeling of various forces acting on atoms in optical media; modeling of photon correlation in various schemes etc.

International cooperation experience:

Though a just-formed division, as a research group we already have an extensive experience of international collaboration. Among the centers with which we have already established sustainable collaborative relationships we can mention: the group of Prof. C. H. Keitel, Max Planck Institute for Nuclear Physics, Heidelberg, Germany and the center managed by prof. G.-X. Li, Central China Normal University, Wuhan, China.

Recently Dr.Sci. M. Macovei and Prof. C. H. Keitel co-directed the Moldovan-German bilateral project ASM/13.820.05.07/GF – BMBF/01DK13015 "Control of the quantum dynamics of a collection of artificial atoms (CONATOM)".

Key words on core competencies:

Quantum coherence; quantum interference; photonics; photonics; nonmaterial quantum cooling; accelerated decay.

Horizon 2020 relevant call: area of interest:

Excellent Science	▪ Research infrastructures
Societal challenges	▪ Climate action, environment, resource efficiency and raw materials



ATMOSPHERIC RESEARCH GROUP (ARG), INSTITUTE OF APPLIED PHYSICS

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Title and name of the contact person; position:

Senior scientific researcher	Dr. Alexandr ACULININ
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Atmospheric Research Group(ARG) was founded at the Institute of Applied Physics in 2003. In 2003 for the first time in Moldova on the basis of the IAP it was established ground-based station for continuous monitoring of solar radiation, and for regular observations of the optical properties of atmospheric aerosols and total column ozone content (<http://arg.phys.asm.md>). The station was equipped with the state-of the-art radiometric instrumentation under the financial support through grant from Moldovan Research and Development Association (MRDA), Moldova. In 2003 the IAP ARG ground-based solar radiation monitoring station was registered in the Global Atmosphere Watch Station Information System (GAW SIS) as a Regional fixed station in WMO RA VI-Europe (<http://gaw.empa.ch/gawsis/reports.asp?StationID=-739518802>).

Group has a rich experience of on-going long-term international scientific cooperation with well-known research Centers such as NASA/Goddard Space Flight Center, World Radiation Data Center (WRDC) and World Ozone and Ultraviolet Radiation Data Centre (WOUDC).

Monitoring of the surface solar radiation (in the range from UV to IR), optical characteristics of atmospheric aerosols, total ozone content in a column of atmosphere, and basic meteorological parameters of the atmosphere is being carried out at the ARG station since 2003. A huge volume of data has been accumulated at the ARG station during this period. Time-series of observed parameters are analyzed to find their trends and complex interrelations between these parameters. Seasonal relationships between the incoming solar radiation and aerosol optical depth (AOD) are studying. ARG's staff: 4 researchers.

Expertise / Competences / Technologies / RTD know-how:

Expertise and competences in atmospheric aerosols, aerosol science, climatology, climate change, remote sensing applications, ozone.

International cooperation experience:

- Scientific collaboration within the framework of the international Aerosol Robotic Network(AERONET) project with the NASA/Goddard Space Flight Center (GSFC), code 618, Greenbelt, MD 20771, USA (since 1999 -2020) http://aeronet.gsfc.nasa.gov/photo_db/Moldova.html.
- Scientific collaboration within the framework of the Solar Radiation Network(Sol-Rad Net) project with the NASA/Goddard Space Flight Center (GSFC), code 618, Greenbelt, MD 20771, USA (since 1999-2020).
- Scientific collaboration with the World Data Centers within the framework of the Global Atmosphere Watch (GAW) Program, World Meteorological Organization (WMO).
- World Ozone and Ultraviolet Radiation Data Centre (WOUDC), Toronto, Canada (since 2003) http://www.woudc.org/currentcontributors_e.htm.
- World Radiation Data Centre (WRDC), St. Petersburg, Russia (since 2003).
- Bilateral project "Long-Term Continuous Monitoring of Radiative Properties of the Atmosphere in Urban Environment of Kishinev" (grant CRDF/MRDA, BGP-II #ME2-3033, 2003-2005) in cooperation with Drs. A Smirnov and T. Eck, Goddard Earth Sciences & Technology Center, Univ. of Maryland, BC and NASA/Goddard Space Flight Center (GSFC).
- Bilateral project "Investigation of the variability of aerosol optical thickness and solar irradiance in an urban environment of Kishinev" (grant SCOPES # IB7320-110935, 2005-2008) in collaboration with Prof. Atsumu Ohmura, Institute for Atmospheric and Climate Science (IAC), Swiss Federal Institute of Technology (ETH), Zurich, Switzerland.



Key words on core competencies:

Solar radiation; AOD; ozone; UV; aerosols.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none">▪ European Research Council▪ Marie Skłodowska-Curie action
Societal challenges	<ul style="list-style-type: none">▪ Food security, sustainable agriculture and forestry, marine and maritime and inland water research
Spreading excellence and widening participation	<ul style="list-style-type: none">▪ Twinning of research institutions



**LABORATORY OF THE APPLICATION OF RESONANT EFFECT IN ELECTROTECHNOLOGIES,
INSTITUTE OF APPLIED PHYSICS**

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Website	www.phys.asm.md/

Title and name of the contact person; position:

Senior scientific researcher	Dr. hab., prof. Viorel GOLOGAN
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The group contains 8 collaborators which investigate the influence of resonant effect on electrochemical deposition, welding process and electrooxidation of metals.

Research show that, retaining constant electrolysis conditions, the structure and physico-mechanical properties of the coating may be significantly modified changing the parameters of the resonant system (L, C).

In the last 5 years were published more than 30 papers and abstracts, received 3 patents and power sources.

International cooperation experience:

2 projects Moldova-Belarus (2010-2011, 2013-2014).

Key words on core competencies:

Quantum coherence; quantum interference; photonics; photonics; nonmaterial quantum cooling; accelerated decay.

Horizon 2020 relevant call: area of interest:

Excellent Science	▪ European Research Council
Industrial Leadership	▪ Leadership in enabling and industrial technologies (LEIT)
Societal challenges	▪ Climate action, environment, resource efficiency and raw materials
Spreading excellence and widening participation	▪ Twinning of research institutions
Other	▪ Science with and for Society



**LABORATORY OF MECHANICAL PROPERTIES OF MATERIALS (LPMM),
INSTITUTE OF APPLIED PHYSICS**

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Title and name of the contact person; position:

Head of the Laboratory	Dr. Olga SHIKIMAKA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Within the period of its activity (since 1963) LPMM became a scientific center, unique in Moldova Republic, where all-round investigations of the problems of strength and plasticity, defect structure and mechanical properties especially by means of local deformation (micro- and nanoindentation) of a wide range of materials (crystalline and composite ones, glasses, polymers, coated systems, fibers, etc.) are carried out. The staff includes 9 persons, between them 4 senior researchers (2 dr.hab. 2 dr.), 3 researches and 2 engineers.

Among the recent research results can be mentioned the following. The loading holding under Vickers and Berkovich indentation favour the formation of amorphous phase in the deformed zones of crystalline Si. The use of different scratch rate lead to specific morphology of the scratch track that can be used for mechano-chemical texturing of Si surface for solar cell applications. It was found that under indentation of Tb-doped aluminophosphate glasses the increase of loading rate leads to the decrease of both densification and shear flow deformation contribution resulting in an increase of hardness. A modification of Young's modulus and hardness values and relaxation parameters were found for the system 'copper film on the substrate' depending on the type of substrate (LiF, MgO, Si), and film thickness (85-1000 nm). A mutual influence of the film and substrate as a function of the value of the applied load was revealed.

Expertise / Competences / Technologies / RTD know-how:

The team has expertise in the investigation of the mechanical properties (hardness, Young modulus, fracture toughness, kinetics of deformation process, yield stress, etc.) of bulk and size limited materials by means of nanoindentation / microindentation and scratching methods as well as uniaxial deformation. The use of atomic force microscopy, Raman spectroscopy, EDX SEM analysis and chemical treatment technique (etch-pit method) give the possibility to study the structure and peculiarities of the deformed zone around the indentation in order to reveal the main mechanisms of deformation. The influence of different external and internal factors (structure, dopants, inclusions, deformation temperature, loading regimes, etc.) on the mechanical behavior is also investigated. Application of microindentation and nanoindentation methods for studying of different physical processes and phenomena: hardness anisotropy, fracture anisotropy, mass transport, twinning, dislocation mobility, phase transformation, scale effect, etc.

International cooperation experience:

The laboratory team collaborates with different scientific institutions abroad: National Institute for Optoelectronics, Bucharest, Romania; National Institute for Laser, Plasma and Radiation, Bucharest, Romania; Aristotel University, Thesaloniki, Greece; Holon University, Israel; Institute for Nanotechnology, Karlsruhe, Germania; Institute of Applied Physics ASB, Belarusi. Institute for Problems in Mechanics, ASR, Moscow, Russia, etc.

Projects:

1. Corelation of synthesis-microstructure-properties for vitreous aluminophosphate materials with magneto-optical aplication (Bilateral Moldo-Romanian project, 2013-2014).
2. Mechanical properties of vitreous phosphate materials doped with rare earth for optoelectronic application (Bilateral Moldo-Romanian project, 2010-2012).
3. STCU 4610 Advanced Light Emissive Device Structures (participation), (2009-2012).



4. Influence of the temperature and instrument geometrical peculiarities on the surface layer properties of metals under severe plastic deformation (Bilateral Moldo-Russian project, 2008-2009).
5. Elaboration and investigation of nanocomposite polymers with controlled architectural molecular structure (Bilateral Moldo-Belarus project, 2008-2009).
6. Elaboration of methods of prediction of the evolution of material properties in the vicinity of frictional surfaces under severe deformation (Bilateral Moldo-Russian project, 2006-2007).

Key words on core competencies:

Nanoindentation; deformation; hardness; plasticity; fracture.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Future and Emerging Technologies ▪ Marie Skłodowska-Curie actions ▪ Research infrastructures
Industrial Leadership	▪ Leadership in enabling and industrial technologies (LEIT)
Societal challenges	▪ Secure, clean and efficient energy



LABORATORY OF REGIONAL GEOLOGY, INSTITUTE OF GEOLOGY AND SEISMOLOGY

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Title and name of the contact person; position:

Deputy director of The Institute of Geology and Seismology of ASM	Dr. Igor NICOARA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

In staff of laboratory work 12 person, that include 4 doctors, 2 PhD student, 2 master students, researcher and inginers. Like a result for last 5 years there are: The tectonic model of Preodbrogian depression was elaborated by the modern conception of the evolution of this region, structure maps of Paleozoic and low Cretaceous periods were created. The fact of the accumulation of hydrocarbon gas-oil resources was determined in the sedimentary rocks of Paleozoic and pre-Paleozoic age. The map of the perspective territory for hydrocarbon gas-oil deposits was elaborated in south-east segment of Preodbrogian depression. The inventory and mapping of contaminated sites by toxic organic substances was made and pollution spectrum was determined for all territory of Republic of Moldova.

Expertise / Competences / Technologies / RTD know-how:

The treatment technology for the bentonite clay raw material with high sorbent properties was elaborated for the wine industry. The geo-informational system was elaborated for the collection and processing of geotechnical information and the creation of geotechnical service for Chisinau city as a model for other urban Moldavian locality.

International cooperation experience:

Research team participated in transboundary project "INPOLDI", between Romania, Moldova and Ukraine. Team initiate cooperation with colleagues from European Communitie for regional research project.

Key words on core competencies:

Geological mapping; stratigraphy; mineral resources; geotechnical; paleontology.

Horizon 2020 relevant call: area of interest

Excellent Science	<ul style="list-style-type: none"> Marie Skłodowska-Curie actions Research infrastructures
Spreading excellence and widening participation	<ul style="list-style-type: none"> Twinning of research institutions
Societal challenges	<ul style="list-style-type: none"> Food security, sustainable agriculture and forestry, marine and maritime and inland water research
Other	<ul style="list-style-type: none"> Science with and for Society



LABORATORY OF SEISMOLOGY, INSTITUTE OF GEOLOGY AND SEISMOLOGY

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E-mail	alcazv@gmail.com
Website	www.igs.asm.md

Title and name of the contact person; position:

Director of the Institute; Head of the Laboratory	Dr. hab. Vasile ALCAZ
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The main scientific directions of the Laboratory of Seismology:

- Seismicity of the Carpathian-Balkan region.
- Development of methods for earthquakes monitoring, seismic hazard and risk evaluation.
- Quantification of seismic actions on structures.

Staff of Laboratory: 14 researchers, including 5 doctors of sciences.

Research achievements for the last 5 years:

- New theoretical methods of hazard and seismic risk assessment were developed;
- New generation of seismic hazard maps and at different levels (regional, municipal) was elaborated;
- Scenarios of future strong earthquakes generated by Vrancea seismic source were developed;
- Regulatory framework that will ensure the aseismic design and construction in Republic of Moldova was improved;
- Applying innovative statistical methods in seismology the dynamics of seismic waves in the way from foci until to seismic stations was established;
- Time series peculiarities of the microseisms in the territory of R Moldova were highlighted;
- Statistical analysis of the seismic stress field characteristics in the Vrancea region was performed;
- Applying the Allan Factor method the time-clustering behavior of the sub-crustal seismicity of the Vrancea region was established.

Expertise / Competences / Technologies / RTD know-how:

Competences in Earth and Environmental Sciences.

International cooperation experience:

1. CRDF Project "Reliability of Advanced Base-Isolation for the Protection of Critical Facilities from Earthquake Hazards" (2002-2004).
2. INTAS Project "Numerical analysis of 3D seismic wave propagation using Modal Summation, Finite Elements and Finite Difference methods" (2006-2008).
3. NATO SfP Project 980468 "Harmonization of Seismic Hazard and Risk Reduction in Countries Influenced by Vrancea Earthquakes" (2007-2009).
4. NATO Collaborative Linkage Grant 981619980468: "Quantification of Earthquake Action on Structures", (2007-2010).
5. Bilateral (Moldova-Italy) Project "Characterization of seismicity of Moldova Republic territory. Contribution to seismic hazard assessment" (2011-2012).
6. FP 7 NERA Grant "Early warning System for republic of Moldova territory: alarm time and data processing aspects (2012).
7. Bilateral (Moldova-Italy) Project "Development and application of statistical models and methods to characterize earthquake and microtremor series" (2013-2014).
8. EU Project «Black Sea Earthquake Safety Network (Moldova, Romania, Bulgaria and Turkey)" (2012-2014).

Key words on core competencies:

Environment; earthquakes; monitoring; hazard; risk; mitigation.



Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none">▪ Marie Skłodowska-Curie actions▪ Research infrastructures
Spreading excellence and widening participation	<ul style="list-style-type: none">▪ Twinning of research institutions▪ Supporting access to international networks for excellent researchers and innovators
Societal challenges	<ul style="list-style-type: none">▪ Secure societies - Protecting freedom and security of Europe and its citizens
Other	<ul style="list-style-type: none">▪ Science with and for Society



**INSTITUTE OF GEODESY, ENGINEERING RESEARCH AND CADASTRE STATE ENTERPRISE INGEOCAD,
AGENCY FOR LAND RELATIONS AND CADASTRE**

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Title and name of the contact person; position:

Director	Dr. Serghei NAGORNEAC
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The State Enterprise INGEOCAD is a basic enterprise in the Republic of Moldova in the field of geodesy, photogrammetry and geoinformatics. Main INGEOCAD subdivisions are: Department of Geodesy and Cadastre, Department of Cartography, Geographic Information Systems, Department of Digital and Analytical Photogrammetry and Research Department. INGEOCAD has a staff of 112 qualified employees, hardware and software for production and quality control.

Expertise / Competences / Technologies / RTD know-how:

- Carrying out high precision geodetic works (National Geodetic Network, National Leveling Network and National Gravity Network).
- Production of large scale city maps, small scale administrative and road maps.
- Carrying out surveying and cadastral works.
- Research and technological development in the field of geodesy, photogrammetry and geoinformatics.
- Development of spatial database and web services.

International cooperation experience:

2009–present: Development of Web geoportal within the framework of Norwegian Project <http://www.Moldova-map.md/>.

2008: Moldova Orthophoto development of orthophoto map within the framework of Norwegian Project.

2007: EURODEM development of Digital Elevation Model within Eurogeographics Project.

2007: Configuration and installation of GNSS permanent reference station within the framework of EUREF Permanent Network Project.

2006: EUROGLOBALMAP within the framework of Eurogeographics Project on development and regular updating of the 1:1000 000 scale European map.

2006: EUROREGIONALMAP within the framework of Eurogeographics Project on development and regular updating of the 1:250 000 scale European map.

2006: SABE development of Administrative boundary map of Moldova within the framework of “The Seamless Administrative Boundaries of Europe” Project.

Key words on core competencies:

Geodesy; photogrammetry; engineering research; cadastre; mapping; surveying; remote sensing; gravimetry; leveling; geographic information; spatial data; digital terrain model; database; Geographic Information System (GIS); Global Navigation Satellite System (GNSS); geoportal.

Horizon 2020 relevant call: area of interest:

Excellent Science	▪ European Research Council
Industrial Leadership	▪ Leadership in enabling and industrial technologies (LEIT)
Societal challenges	▪ Climate action, environment, resource efficiency and raw materials ▪ Secure, clean and efficient energy
Spreading excellence and widening participation	▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions

AGROECOLOGY AND SOIL SCIENCE DEPARTMENT, STATE AGRARIAN UNIVERSITY OF MOLDOVA

Organization contact data:

Address	50, Mircești str., Chisinau, MD-2049, Republic of Moldova
Telephone	(+373-22) 31-22-92
Fax	(+373-22) 31-22-56
E-mail	v.andriuca@uasm.md
Website	www.uasm.md

Title and name of the contact person; position:

Head of Department	Dr. Valentina ANDRIUCA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Department of Agroecology And Soil Science includes a laboratory, a research station, polygons in the EDS "Chetrosu" with research facilities. There are 8 doctors of sciences and 6 other members as staff.

The department has elaborated 5 recommendations in agroecology, evaluation of soil degradation processes in the Republic of Moldova, durable use of the soils resources, and re-establishment of the degraded soils.

Expertise / Competences / Technologies / RTD know-how:

- Ecological monitoring.
- Land and soil monitoring.
- Soil and land evaluation.
- Environmental and erosion protection.
- Reconstructing and improving of lands.
- Measures for desertification prevention.

International cooperation experience:

2010–2012: Testing new fertilizers for authorized use in agriculture: the study of the impact under pedofauna for the restoration of soil fertility (Republic of Moldova – Romania).

2006–2008: Individual Mobility Grant MOL 3008–2006 (Retraining – Study – Collaboration – Dissemination) – to design a university curriculum for a new course of Ecological Monitoring; IMG MOL3008–2006 TEMPUS – TACIS, Ecological monitoring.

1998–2001: Inco–Copernicus Project – "Experiences with the impact of subsoil compaction on soil nutrients, crop growth and environment and ways to prevent subsoil compaction" [ERBIC15–CT980125(DG12–CDPE)].

1998–2001: Soil Degradation in Central and Eastern Europe (SOVEUR Project) (GCP/RER/007/NET) FAO /Netherlands (ISRIC).

Key words on core competencies:

Soil evaluation; degradation; soil compaction; erosion protection; ecological monitoring.

Horizon 2020 relevant call: area of interest:

Excellent Science	▪ European Research Council
Industrial Leadership	▪ Leadership in enabling and industrial technologies (LEIT)
Societal challenges	▪ Climate action, environment, resource efficiency and raw materials ▪ Secure, clean and efficient energy
Spreading excellence and widening participation	▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions



LABORATORY OF GEOBOTANY AND FORESTRY, BOTANICAL GARDEN (INSTITUTE)

Organization contact data:

Address	18, Padurii str., Chisinau, MD-2002, Republic of Moldova
Telephone	(+373-22) 63-66-53
Fax	(+373-22) 28-18-28
E-mail	ghpost@mail.ru
Website	www.gradinabotanica.asm.md

Title and name of the contact person; position:

Head of the Laboratory	Dr. hab. Gheorghe POSTOLACHE
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The laboratory of Geobotany and Forestry is a subdivision of the Botanical Garden Institute, Academy of Sciences of Moldova. Geobotany and Forestry Laboratory was established in 1964 with the main objective to make comprehensive research studies in flora and vegetation of the Republic of Moldova. Laboratory's main research fields are: in situ and ex situ conservation of forest genetic resources; survey of flora and vegetation diversity; syntaxonomic structure of vegetation; organization of phytocenoses; monitoring of protected areas and areas with valuable botanical aspect; monitoring protected species; investigations on plant communities response to climate and anthropic factors; sustainable management and use of plant resources.

Expertise / Competences / Technologies / RTD know-how:

- Description and identification of plant communities and plant associations.
- Assessment floristic, phytocenotic and forests diversity.
- Climate change impact on forest tree species.
- Assessment anthropic impacts on plant communities.
- Technologies for ecological reconstruction of forest stands in protected areas have developed.
- The concept of creating Forest Cover (Carcasa Forestiera) was developed.
- The concept of Protected Areas Research has been developed.

International cooperation experience:

2010–present: Improving coverage and management effectiveness of the protected area system in Moldova. Project ID 00062742, funded by UNDP.

2002–present: National Coordinator of the Planta Europa Network.

2000–present: Inventory plant associations in the protected areas of the Republic of Moldova.

1995–present: National Coordinator of the IPGRI (International Plant Genetic Resources) in European Network Program EUFORGEN.

2001–2010: Phytocenotic diversity of the vegetation in protected areas of the Republic of Moldova with the aim to develop recommendations to optimize plants diversity conservation.

1997–2001: Genetic Resources of Broadleaved forest tree species in Southeastern Europe coordinated by IPGRI (participating countries: Bulgaria, Italy, Luxembourg, Romania and Republic of Moldova).

Key words on core competencies:

Phytocenotic diversity of vegetation; plant communities; forests; steppes; meadows; aquatic and marsh plant communities; plant rare species; protected areas; forest genetic resources; climate change impacts on forests; anthropic impact on forests; sustainable management of natural resources; ecological reconstruction; vegetation mapping.

Horizon 2020 relevant call: area of interest:

Excellent Science	▪ European Research Council
Industrial Leadership	▪ Leadership in enabling and industrial technologies (LEIT)
Societal challenges	▪ Climate action, environment, resource efficiency and raw materials ▪ Secure, clean and efficient energy
Spreading excellence and widening participation	▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions



LABORATORY OF ECOLOGICAL CHEMISTRY, INSTITUTE OF CHEMISTRY

Organization contact data:

Address	3, Academiei str., Chisinau, MD-2028, Republic of Moldova
Telephone	(+373-22) 72-54-90
Fax	(+373-22) 73-99-54
E-mail	lupascut@gmail.com ; mihai_ciobanu2002@yahoo.co.uk
Website	www.chem.asm.md

Title and name of the contact person; position:

Head of the Laboratory	Dr. hab. Mihail CIOBANU
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Laboratory was set up on 6 April 1962 under the name of the Laboratory of Mineral Materials, later named as the Laboratory of Mineral Materials and Water Chemistry, and recently the Laboratory of Ecological Chemistry. The laboratory was founded by Nicolai Labanov (1897–1972), Doctor of Chemistry, and afterwards modernized by Valeriu Ropot (1934–2002), Doctor of Chemistry, laureate of the State Prize and nowadays – by Tudor Lupașcu, Doctor Habilitatus of Chemistry, Professor, Laureate of the State Prize. Number of employees: 12.

Expertise / Competences / Technologies / RTD know-how:

- Synthesis of activated carbons with anticipated properties from vegetable raw materials for the protection of the environment and humans.
- Pharmaceutical preparations from winemaking secondary products, having antimicrobial and antifungal properties.
- Developing of the technology of the production of activated carbons from fruit stones, grape seeds and shell nuts by physicochemical and chemical methods.
- Elaboration of novel methods and technological procedures to prepare ground and surface waters for use as drinking water, wastewaters treatment, evaluation of agricultural by-products.
- Highlighting of procedure and mechanisms of accumulation and migration of pollutants to the main water bodies of the Republic of Moldova.
- Elaboration and implementation of novel construction materials based on waste material.

International cooperation experience:

2006–2008: New carbon and mineral adsorbents with different core: their structure and properties. Project funded by Joint Program ASM–RFBR.

2006–2008: Optimization of Tartaric acid enotannins extraction from winery wastes and their utilization for the synthesis of new compounds with biological activity and antioxidant properties. Project funded by INTAS.

2005–2007: Implementation and Optimization of the Activated Coal Mass–production Using Non– traditional Raw Material. Project funded by CRDF–MRDA.

2003–2005: Ion Exchanges and Catalysts from Carbon Adsorbents for Water Treatment. Project funded by CRDF–MRD.

2012–2015: IOP, “Black Sea basin 2007–2013. Sharing Collectively the Competences of the Researchers to the Farmers for a Sustainable and Ecological Exploitation of the Agricultural and Environmental Protection”.

Key words on core competencies:

Activated carbons; mineral sorbents activation; adsorption mechanisms; chemistry of construction materials; analytical; non–polluting technologies.

Horizon 2020 relevant call: area of interest:

Excellent Science	▪ European Research Council
Industrial Leadership	▪ Leadership in enabling and industrial technologies (LEIT)
Societal challenges	▪ Climate action, environment, resource efficiency and raw materials ▪ Secure, clean and efficient energy
Spreading excellence and widening participation	▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions



INSTITUTE OF POWER ENGINEERING

Organization contact data:

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Telephone	(+373-22) 73-98-57
Fax	(+373-22) 73-53-82
E-mail	tirsu.mihai@gmail.com; berzan@ie.asm.md
Website	www.ie.asm.md/en/home

Title and name of the contact person; position:

Director	Dr. Mihail TIRSU
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Institutional project (applied research): "The development of effective technical devices and solutions for production, transfer, consumption and the supply of energy", project coordinator: Dr. Sc. Berzan Vladimir.

The independent research project: "07.409.36INDA. Researches of the efficiency of renewable energy sources utilization in the south of the Republic of Moldova (wind, sun, biogas)", project coordinator: PhD. Tirsu Mihai. The technological transfer project "Implementation of solar collectors for water heating (public baths, individual houses) or mobile bathrooms", project coordinator: academician, Dr. Sc. Postolati V.M.

Expertise / Competences / Technologies / RTD know-how:

Wind installation with horizontal axes of 3kW. Solar heaters with raised productivity. Convective drying installations on basis of cross-section air streams. Complex bioenergy installations. Turbines with vertical rotation axis (module). Vertical axis wind turbines with wind stream concentrators. Mirrored solar collectors for the heating of liquids (water).

International cooperation experience:

International project Newsletter of PROMITHEAS – "The Energy and Climate Policy Network", supervisor Dr. Sc. Chiorsac Mihai.

International project "Energy-Saving Power Conversion Systems with Advanced Methods of Synchronised Modulation", supervisor Dr. Sc. Olesciuc Valentin.

International project "Scientific analysis and monitoring of energy security of Moldova and Belarus and development of practical recommendations", supervisor PhD. Bikova Elena.

Key words on core competencies:

Wind energy; solar energy; bio-energy; convective drying.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> European Research Council
Industrial Leadership	<ul style="list-style-type: none"> Leadership in enabling and industrial technologies (LEIT)
Societal challenges	<ul style="list-style-type: none"> Climate action, environment, resource efficiency and raw materials Secure, clean and efficient energy
Spreading excellence and widening participation	<ul style="list-style-type: none"> Teaming of excellent research institutions and low performing RDI regions Twinning of research institutions



INSTITUTE OF ZOOLOGY

Organization contact data:

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Telephone	(+373-22) 73-81-41
Fax	(+373-22) 73-81-41
E-mail	iontoderas@yahoo.com
Website	www.zoology.asm.md/

Title and name of the contact person; position:

Director	Dr. hab. Ion TODERAS
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Institute of Zoology of the ASM was founded in 1947, initially as a subdivision within the frame of Moldovan Base of Scientific Researchers of the Academy of Sciences of USSR, Institute of Biology of Moldovan Branch of the AS of USSR (1957), and was assigned with its actual name in 1961. The Institute was, and still remains, the most prestigious scientific and methodological center, which coordinates and accomplishes fundamental and applied scientific research, trains high qualification personnel in the branches of zoology, entomology, parasitology, helminthology, hydrobiology, ichthyology, ecology. Number of employees: 154.

Expertise / Competences / Technologies / RTD know-how:

- Elaboration of animal world monitoring methodology and of the cadastre of animal world of Moldova.
- Modelling of populational processes of economic important animal species and forecasting of their dynamics.
- Elaboration of express-methods to determine the degree of infection with nematodes-vectors of the lands intended for vineyard plantation.
- Entomofauna monitoring in natural ecosystems and agroecosystems with the aim of biodiversity conservation and durable development of the agriculture.
- Parasite fauna monitoring in domestic and wild animals in natural and anthropogenic ecosystems.
- Elaboration and improvement of advanced biotechnologies in aquaculture and of the express-analysis methods for fish products quality evaluation.

International cooperation experience:

2006–2007: Technology development for introduction and breeding of Kefal pelingas in fish farms of Moldova, BPP 03–06, CRDF–MRDA.

2005–2007: Accumulation and effect of trace elements on fish growth and development, BGP III MOBI–3051–CS/03.

2001–2003: Assessment of current status of biodiversity and water quality in Dniester River, MBI–3002. CRDF–MRDA.

1998–2001: Quality monitoring and quality assurance of fresh water and seawater aquaculture fish, INCO–COPERNICUS.

2012–2015: IOP Ro-Ua-Md 2007–2013 “Resources Pilot center for cross-border preservation of the aquatic biodiversity of Prut River”.

Key words on core competencies:

Zoology; diversity and rational use of animal world in aquatic and terrestrial ecosystems; modelling of population processes; fauna monitoring.

Horizon 2020 relevant call: area of interest:

Excellent Science	▪ European Research Council
Industrial Leadership	▪ Leadership in enabling and industrial technologies (LEIT)
Societal challenges	▪ Climate action, environment, resource efficiency and raw materials ▪ Secure, clean and efficient energy
Spreading excellence and widening participation	▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions



**FACULTY OF CHEMISTRY AND CHEMICAL TECHNOLOGY, APPLIED AND ECOLOGICAL
CHEMISTRY RESEARCH CENTRE, STATE UNIVERSITY OF MOLDOVA**

Organization contact data:

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Fax	(+373-22) 57-75-37
E-mail	fctc@usm.md; vgladchi@yahoo.com
Website	www.usm.md/chimie

Title and name of the contact person; position:

Head of department	Dr. Viorica GLADCHI
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Research Centre focuses on development of new non-pollutant sustainable technologies and materials. Main subdivisions are: Coordination Chemistry laboratory, Ecological Chemistry laboratory, Electrochemical Processes laboratory, Marketing and Atmosphere protection laboratory, Redox Catalysis in Food Products laboratory and Reanal research group. Number of employees: 89.

Expertise / Competences / Technologies / RTD know-how:

- Development of alternative fuel products and new catalysts for fuel complex combustion.
- Research of redox processes in aquatic environment, food and beverages, application of redox processes in water treatment.
- Synthesis of coordination compounds: catalysts for obtaining of alternative energy sources, biologically active compounds (bactericides, immunostimulators).
- Noble metals analysis, liquid membranes ion transport research.
- Photometric, thermoplastic and holographic materials development.

International cooperation experience:

2006–2010: Catalytic redox processes in clean technologies and environment, project coordinator Acad. Gh. Duca.
2008–2009: Photodegradation of organic substances in modeled aquatic systems and natural waters, project coordinator Acad. Gh. Duca.

2008–2009: Coordinative chemistry and photo-physics of aza-analogues of 1,3-dicarbonyl compounds, project coordinator Dr. Hab. M. Revenco.

2008–2009: The study of processes for obtaining of metal-oxide nanocatalysts and catalytic layers for photocatalytic destruction of persistent organic pollutants, project coordinator Dr. O. Covaliova.

2007–2009: New bismuth-transition metal coordination compounds as molecular precursors to heterometallic oxide materials, project coordinator Cor. Memb. A. Gulea.

Key words on core competencies:

Alternative energy; atmosphere protection; aquatic environment research; biologically active compounds; ecological chemistry; nanotechnologies and nanomaterials; thermoplastic and holographic materials; wine industry secondary products.

Horizon 2020 relevant call: area of interest:

Excellent Science	▪ European Research Council
Industrial Leadership	▪ Leadership in enabling and industrial technologies (LEIT)
Societal challenges	▪ Climate action, environment, resource efficiency and raw materials ▪ Secure, clean and efficient energy
Spreading excellence and widening participation	▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions



CENTRE FOR GEOGRAPHIC INFORMATIONAL TECHNOLOGY, DEPARTMENT OF GEODESY, CADASTRE AND GEOTECHNIQUES, TECHNICAL UNIVERSITY OF MOLDOVA

Organization contact data:

Address	41, Dacia str., Chisinau, MD-2060, Republic of Moldova
Telephone	(+373-22) 77-35-92
Fax	(+373-22) 77-35-92
E-mail	nistor.livia@gmail.com
Website	www.utm.md ; www.ctig.utm.md

Title and name of the contact person; position:

Head of department	Dr. Livia NISTOR–LOPATENCO
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The activities of the Department of Geodesy, Cadastre and Geotechniques include educational programs, outreach initiatives and international collaboration projects. At the same time this team of specialists contributes with their skills and expertise to study programs and research at the Centre for Geographic Informational Technology (CGIT). The number of teaching staff is 30.

Expertise / Competences / Technologies / RTD know-how:

- Education in surveying and mining engineering programs according to the guidelines of the Bologna Declaration.
- Research and technological development in the field of geodesy, photogrammetry, geoinformatics and geotechniques.
- Development of applied geoinformatics and spatial information management with a research focus on open distributed systems, spatial modelling, 3D visualization and simulation.

International cooperation experience:

- 2010–2013: TEMPUS Project 511322–TEMPUS–1–2010–SE–JPCR, Geographic information technology for sustainable development in Eastern neighboring countries/GIDEC, www.utm.md/tempus/index.php.
- 2010–2011: Development of a High Capacity Real–Time GNSS Positioning Service for Moldova (MOLDPOS), www.moldpos.eu, project manager: As. Prof. Dr. Vasile Grama.
- 2004–2006: TEMPUS project CD_JEP–24243 Education in Geographic Information Technology.
- 2005: Development of Continuous Operating Reference Station GNSS http://ctig.utm.md/?module=projects&action=1&project_id=5.
- 2001–2003: SIDA project Modernization of educational System in cadastre field for EEC.
- OpenMoldovaMap is a free and open–source service based on OpenStreetMap that helps you to discover Moldova <http://maps-dev.iap.md/map/index/language/en>.
- Georeferencing of Satellite image for Chişinău region in the frame of Google Earth Project <http://ctig.utm.md/?module=news>.
- 2012-2013: FP7-GALILEO-2011 “EGNOS Extension to Eastern Europe: Applications”.

Key words on core competencies:

Geodesy; photogrammetry; cadastre; mapping; surveying; remote sensing; gravimetry; engineering research; geological hazards; land management; Geographic Information Technology (GIT); leveling; geographic information; spatial data; digital terrain model; database; Geographic Information System (GIS); Global Navigation Satellite System (GNSS); Continuous Operating Reference Station (CORS).

Horizon 2020 relevant call: area of interest:

Excellent Science	▪ European Research Council
Industrial Leadership	▪ Leadership in enabling and industrial technologies (LEIT)
Societal challenges	▪ Climate action, environment, resource efficiency and raw materials ▪ Secure, clean and efficient energy
Spreading excellence and widening participation	▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions



LABORATORY OF CLIMATOLOGY, INSTITUTE OF ECOLOGY AND GEOGRAPHY

Organization contact data:

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Telephone	(+373-22) 73-15-50
Fax	(+373-22) 73-98-38
E-mail	ieg@asm.md
Website	www.ieg.asm.md

Title and name of the contact person; position:

Director	Dr. hab. Petru CUZA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The laboratory's main fields of study are: regional climate modifications' estimation in the context of global climate changes, its impact on ecosystems, and the elaboration of climatic risk factors' identification and estimation criteria. Staff (7): PhD Nedea M., PhD Raileanu V., PhD Putintica A., PhD Machidon M., Mleavaia G., Cojocari R., Crivova O.

Research achievements:

- "Republic of Moldova's climate particularities influenced by the Black Sea" maps set publication, Chisinau, 2007.
- The elaboration of digital atlas "Climatic Resources".
- "Natural Resources" monograph edition, Chapter "Climatic Resources", Chisinau, 2006.
- "Natural Regional Hazards" monograph edition, Chisinau, 2009.

Expertise / Competences / Technologies / RTD know-how:

M. Nedea – National expert (2003–2004) for the UNCCD project "Proposal from the Secretariat of the UNCCD for the institutional support to the Republic of Moldova in the implementation of the Convention" and national expert (2006) in "Support for the Implementation of the National Biosafety Framework for Republic of Moldova", Capacity needs for biosafety monitoring, inspection and control, expertise in climatic resources estimation problems.

Competencies: climate change estimation; recommendations for terrain use optimization and agricultural plants placement according to territories' agroclimatic potential.

Technologies: regional GIS, regression modelling, stochastic modelling, deterministic models.

International cooperation experience:

2005–2007: INTAS "New methods of information treatment for management of water quality in river basins".

2006–2007: RFFI "The study of Black Sea Basin's thermal and hydrodynamic regime influence over climate changes on Republic of Moldova territory "In collaboration with Institute of Biophysics, Siberian Department of the Russian Academy of Sciences, Russia.

2009–2010: "Landslide susceptibility assessment in central part of Moldova".

Key words on core competencies:

Climate change; stochastic models; GIS; climatic risks; agroclimatic potential.

Horizon 2020 relevant call: area of interest:

Excellent Science	▪ European Research Council
Industrial Leadership	▪ Leadership in enabling and industrial technologies (LEIT)
Societal challenges	▪ Climate action, environment, resource efficiency and raw materials ▪ Secure, clean and efficient energy
Spreading excellence and widening participation	▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions

RESEARCH INSTITUTE OF FIELD CROPS “SELECTIA”

Organization contact data:

Address	28, Calea Iesilor str., Balti, MD-3101, Republic of Moldova
Telephone	(+373- 231) 30-2-21
E-mail	borisboincean@gmail.com
Website	www.agriculture.md/fito/index.html

Title and name of the contact person; position:

Director	Dr. hab. Boris BOINCEAN
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Department of Sustainable Farming Systems is involved in conducting long-term field experiments with different crop rotations, monoculture, different systems of soil tillage and soil fertilization in crop rotation, irrigation in crop rotation. The duration of such experiments is almost 50 years. The number of staff of the Department of Sustainable Farming Systems is 30 people, including 11 researchers. Experimental data have been obtained regarding the influence of crop rotation, monoculture, systems of soil tillage and soil fertilization on crop productivity and soil fertility. More than 70 articles have been published, including 2 monographs. Results are actively disseminated.

Expertise / Competences / Technologies / RTD know-how:

Expertise and competencies in: crop rotations, monoculture, systems of soil tillage and fertilization in crop rotation, irrigation, weed control, soil organic matter.

International cooperation experience:

During the last 15–20 years we have developed a cooperation program on the above mentioned issues with:

- Michael Fields Agricultural Institute, Wisconsin, USA.
- Institut national de la recherche agronomique (INRA), Clermont-Ferand, France.
- University of Udine, Udine, Italy.
- University of Bern, Bern, Switzerland.
- Swiss College of Agriculture (SHL), Zollikofen, Switzerland.
- Timiryazev Agricultural Academy, Moscow, Russia.
- The Institute of Soil Science and Plant Cultivation, Pulawy, Poland.

Key words on core competencies:

Soil fertility; soil organic matter; crop rotation; soil tillage; soil fertilization.

Horizon 2020 relevant call: area of interest:

Excellent Science	▪ European Research Council
Industrial Leadership	▪ Leadership in enabling and industrial technologies (LEIT)
Societal challenges	▪ Climate action, environment, resource efficiency and raw materials ▪ Secure, clean and efficient energy
Spreading excellence and widening participation	▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions



FOREST RESEARCH AND MANAGEMENT INSTITUTE

Organization contact data:

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Fax	(+373- 22) 59-33-51
E-mail	icas@moldsilva.gov.md
Website	www.icas.com.md

Title and name of the contact person; position:

Director	Dumitru GALUPA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Forest Research and Management Institute from the Republic of Moldova is a state organization with the statute of scientific and project planning institution in the field of forestry. Number of employees: 74.

Expertise / Competences / Technologies / RTD know-how:

- Development and coordination of implementation of technologies in the field of forest guard and protection, tending activities, extension of lands covered with forest vegetation, creation and management of forest genetic resources, growing of forest planting material, organization and management of forest and hunting funds, forest management planning, participation in the state forest inventory and forest cadastre.
- Carrying out planning activities in the forest and hunting areas.
- Development of regulations, instructions, labor and consumption standards, technological tables.
- Carrying out various impact studies.
- Participation in development of strategies, concepts, programs, legislative acts.
- Improvement of professional skills of the forestry staff, professional training.
- Control of seeds and planting material.

International cooperation experience:

2009–present: Implementation of Japanese grant for Community Forest Development, TF052422.

2007–present: Implementation of CDM project, Moldova Community Forestry Development Project (development of Baseline Study, Monitoring Plan, Carbon Sequestration and Emissions Reductions Study, PDD).

2006: Organization and holding the International workshop on the AR-CDM practical applicant on the case of Moldova Soil Conservation Project.

2005: Study on Illegal logging in Moldova (Savcor–Indufor Oy / World Bank).

2004–2007: Implementation of Japanese Grant for Moldova Community Support Program for Sustainable and Integrated Forest Management and Carbon Sequestration through Forestation.

Key words on core competencies:

Forest management planning; forest inventory; forestry strategies; concepts; programs; legislation; forest seeds and planting material; forestry project development and implementation.

Horizon 2020 relevant call: area of interest:

Excellent Science	▪ European Research Council
Industrial Leadership	▪ Leadership in enabling and industrial technologies (LEIT)
Societal challenges	▪ Climate action, environment, resource efficiency and raw materials ▪ Secure, clean and efficient energy
Spreading excellence and widening participation	▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions



Organization contact data:

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Fax	00373 22 509939.
E-mail	dulgheru@mail.utm.md ; valeriudulgheru@yahoo.com
Website	www.utm.md

Title and name of the contact person; position:

Director	PhD, Dr.Sc. Head of Department "Fundamentals of Machine Design"
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Organization activity type:

Education

Brief description of the organization:

TUM is the only university in the Republic of Moldova offering engineering programs. It was founded in 1964. The Technical University of Moldova comprises 10 faculties and one technical college, 50 departments, etc. The teaching staff includes about 840 professors, 21 000 students. Since 1990 the Centre for the Elaboration of Renewable Energy Conversion Systems (CERECS) (has been set up by decision of the Senate on 22 February 2005 and by the Rector's Order on 15 March 2005) at TUM worked on the study and design of technological systems for wind energy conversion and also on the flowing water kinetic energy conversion without dam construction. These systems are planned to help farmers and small producers in rural regions. This would allow for a partial satisfaction of energy needs of the rural population of Moldova that now lives in an increased level of poverty. In 2008 year in accordance with Bologna process the 2nd cycle study was founded at the *Department of the Theory of Mechanisms and Machine Parts* in field "Engineering of Renewable Energy Conversion Systems".

Expertise / Competences / Technologies / RTD know-how:

PhD (1987), Dr.Sc.(1995), professor (2010), head of department "Fundamentals of Machine Design". Has a good experience in research, innovative and teaching fields (more 34 years): participant in more **20** projects; **36** manuals and monographs, more **170** inventions. Is a teaching professor on IInd cycle study (2 modules) and 3rd cycle study (doctorate) (1 module). For his outstanding scientific activity had been awarded with important international distinctions: State Prize of Moldova on Science and Technics (1998); Honorary Inventor of the Republic of Moldova (1995); Honorary Inventor of Romania (1994); Gold Medal OMPI (Organisation Mondiale de Propriete Intellectuelle), 2004; Merite de l'Innovation, Diplome de CHEVALIER, medal of the Kingdom of Belgium (2008); Inventor of the Year, Republic of Moldova, 2006; Golden Henry Coanda medal for succes in technical activity (1996); order „Leonardo da Vinci”, Iasi, Romania, 2008; order „Gogu Constantinescu”, Cluj Napoca, Romania, 2013; State Order "Work Merit" (2014).

Specialization: New mechanical transmissions: planetary precessional transmissions; Renewable energy Conversion Systems; Technical creativity

International cooperation experience:

International projects:

1. SEE/A7524/2.4/X. SEE HYDROPOWER, targeted to improve water resource management for growing renewable energy production. ERSE SpA, Italia. 01.07.2009-31.08.2012.
2. Technological systems based on the utilization of water kinetikal energy for rural consumers. BSEC-HDF / RES 2011-02. 2011-2013.
 1. CRDF Grant MP1-2287. *The Elaboration of submersible Robot Complex drive mechanism for Ferro-Manganese Concretion Extraction.*
 2. CRDF Grant MP2-3023. *The Elaboration and Research of Kinematic Planetary Precessional Transmissions.*
 3. CRDF Grant MP1-990. *National Centre for Materials Study and Testing in Mechanics, Opto-Microelectronics and Non-Conventional Energetics.*
 4. CRDF Grant „A helical turbine system for wind and hydraulic energy recovery.
 5. Design of a new type of gearing for crushing equipment advantageous from the point of view of its cost. Grant awarded by ARP Alpirshbach firm, Germany and University of Applied Science, Konstanz, Germany. 2004-2006.
 6. Transnational project EMULACTION «Environnement multimodal pour Activités Coopératives Transnationales de formation». With the support of «Fonds francophone des inforoutes». Participating countries: France, Canada, Lebanon, Vietnam, Romania and Republic of Moldova (2008-2009).



7. International project SEE/A7524/2.4/X. „SEE HYDROPOWER, targeted to improve water recourse management for growing renewable energy production” (2009-2012). The amount of total funding – 2156000 Euro. Funding for Technical University of Moldova – 50000 Euro.

8. Project BSEC-HDF / RES 2011-02 „Technological systems based on the utilization of water kinetikal energy for rural consumers (TESUWKERC) (2011-2013) – 62500 Eur,

Key words on core competencies

Mechanical transmissions, precessional transmissions, renewable energy conversion systems, technical creativity

Horizon 2020 relevant call: area of interest

Excellent Science	<ul style="list-style-type: none"> Future and Emerging Technologies Research infrastructures
Industrial leadership	<ul style="list-style-type: none"> Leadership in enabling and industrial technologies Innovation in smes
Societal challenges	<ul style="list-style-type: none"> Health, demographic change and wellbeing Secure, clean and efficient energy Smart, green and integrated transport climate





SOCIO-ECONOMIC SCIENCES AND THE HUMANITIES

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THE ACADEMY OF ECONOMIC STUDIES OF MOLDOVA

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2. Regional and Local Development Centre
3. Applied Economics and Management Centre
4. Marketing and Applied Sociology Centre
5. Economic Integration and European Studies Centre
6. Social Economy, Demographic and Administrative Studies Centre
7. Mathematical, Statistical and Econometric Studies Centre
8. Applied Cybernetics and Informatics Centre
9. Financial- Managerial Reporting and Audit Studies Centre
10. Financial and Monetary Studies Centre
11. Legal and Political Studies Centre
12. Economic Communication Research and Applied Linguistics Centre
13. Analysis and Economic Policy Centre

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Title and name of the contact person; position:

Scientific researcher at the Institute of Economic Researchers and European Studies of AESM	Liliana CONDRATCHI
Head of European projects and programs Laboratory at the Institute of Economic Researchers and European Studies of AESM	Nina ROȘCOVAN

Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Academy of Economic Studies of Moldova was established under the Government Decision nr.537 of September 25, 1991, as an institution of higher education and scientific research in economics. The activity period of AESM is unlimited. During the year of 2013, the procedure for the scientific accreditation of AESM was completed, as a result of the assessment, for the years of 2013 to 2018, the institution was accredited in the following scientific profiles:

- Fundamental and applied economics;
- Business and administration;
- Finance, accounting, economic and financial analysis;
- European Integration and Social Policy;
- Information Technology, Computer Science, Economic Statistics and Cybernetics.

AESM is a state public institution under the Ministry of Education; it is a legal entity with its own patrimony, balance, accounts, stamp, letterhead, and emblem. In addition to its faculties, AESM also comprises an institute for research, research centres, departments, services, a doctoral school, a master's studies school, and the Senate.

The structure of the scientific and didactic personnel consists of 338 people, 33 of them hold the scientific degree of habilitated doctor and 219 people hold a Ph.D. in economics. PhD students represent an important human source of research within AESM; they carry out their research activity under the guidance of their PhD advisers as well as in collaboration with other scientific researchers, and the total number of PhD students constitute 143 people.

The Academy of Economic Studies publishes its own scientific journals, accredited by the Academy of Sciences of Moldova and the National Council for Accreditation and Attestation (B and C category), and which correspond to the fundamental areas of research. The scientific journals published by AESM have the aim of mass information on the scientific research and innovation results. In order to capitalize their researchers, with the contribution of



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www.h2020.md



the departments and other subdivisions of AESM, over 20 scientific events with national and international participation are held annually.

The activity for the scientific and innovation research, which was performed within AESM, was focused on the carrying out of 15 initiative projects (unfunded scientific research) and 5 science and innovation projects financed from the state budget sources.

Expertise / Competences / Technologies / RTD know-how:

- Economic and social reforms in the Republic of Moldova;
- The analysis of the effects of the global crisis on the Moldovan economy;
- The analysis of the consequences of the global crisis on the global economy;
- The integration of the Republic of Moldova in the European Union;
- Adapting the national economy to the new conditions of the international economic cooperation and integration;
- The institutions and the institutional change in the transition economy;
- The issues of the restructuring of the financial system;
- The methodology for the analysis of the financial mechanisms in the transition economy;
- Adapting the enterprises to the competitive environment based on the marketing principles;
- The development and promotion of tourism policy in the Republic of Moldova – a factor of sustainable development;
- Improving the accounting and the economic analysis methods of the results in the national economy sectors;
- The use of statistical methods in the economic and social analysis;
- The methodology for the forecasting of the demographic phenomena;
- The computerisation systems of the XXI century society;
- The analysis of the directions and ways of restructuring the higher economic education system in the Republic of Moldova;
- The interaction of the political and economic factors during the transition to a market economy.

International cooperation experience:

The Academy of Economic Studies has signed more than 60 cooperation agreements with various institutions and agencies in different countries such as Romania, Russia, Latvia, Belarus, Ukraine, France, Poland, Bulgaria, Turkey, Italy, Serbia, Switzerland, Austria, China, Morocco, Greece, Czech Republic, Slovakia, and others.

International and bilateral projects:

- The priorities of economic and trade relations between Republic of Moldova and Ukraine in the context of cross-border cooperation and European integration (2010).
- JEP-27034-2006 TACIS 2006 Curriculum Development, “Master Studies in European Integration and Neighbourhood Policy – MEINEPO”.
- 144544-TEMPUS-2008-FR, Joint Projects - Higher Education and Society 144544, “Development of partnerships with the Moldovan enterprises”, 2009-2011, and others.

Key words on core competencies:

Communication and coordination; teamwork; creative and conceptual thinking; integrity; innovation.

Horizon 2020 relevant call area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ European Research Council ▪ Future and Emerging Technologies ▪ Marie Skłodowska-Curie actions ▪ Research infrastructures
Industrial Leadership	<ul style="list-style-type: none"> ▪ Leadership in enabling and industrial technologies (LEIT) ▪ Access to risk finance ▪ Innovation in SMEs

Societal challenges	<ul style="list-style-type: none"> ▪ Secure, clean and efficient energy ▪ Health, demographic change and wellbeing ▪ Food security, sustainable agriculture and forestry, marine and maritime and inland water research ▪ Smart, green and integrated transport ▪ Climate action, environment, resource efficiency and raw materials ▪ Europe in a changing world - inclusive, innovative and reflective Societies ▪ Secure societies - Protecting freedom and security of Europe and its citizens
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions ▪ ERA chairs ▪ Policy Support Facility (PSF) ▪ Supporting access to international networks for excellent researchers and innovators
Other	<ul style="list-style-type: none"> ▪ Science with and for Society ▪ Euratom



TRADE CO-OPERATIVE UNIVERSITY OF MOLDOVA, ECONOMY AND MANAGEMENT IN TRADE AND CONSUMER CO-OPERATIVES

Organization contact data:

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Title and name of the contact person; position:

Dean	Dr., Assoc. prof. Sofia CAPATINA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Trade Cooperative University of Moldova, the only institution in the country with scientific potential in trade and cooperatives, conducted complex research on the situation in domestic trade, identifying issues that influence progress in this area and shaping development prospects. The research activities led to the creation of a sustainable and effective partnership between academic researchers and representatives of the Ministry of Economy and business representatives, as well. Members of the research profile have contributed to the development and improvement of the legal framework and strategic development policies in domestic trade, including drafting of: Law on Domestic Trade, no. 231 of 23.09.2010, published in Monitorul Oficial Journal, no. 206-209 of 22.10.2010; The Domestic Trade Development Strategy of the Republic of Moldova for 2014-2020 and 2014-2016 Action Plan for Its Implementation, approved by Government Resolution no. 948 of 25.12.2013 (published in Monitorul Oficial Journal, no. 284-289 of 06.12.2013); amendments to other legislative and normative documents. The team of researchers from TCUM (33 persons) provides scientific support to the consumer cooperation system, which serves as the object of studies, but also the basis for experimentation and implementation of scientific results and innovations in this area. The main scientific publications in the last years:

- Diagnosis of Situation in Domestic Trade and Development Priorities. Coord. L. ȘAVGA. Chișinău: UCCM, 2012. 104 p., ISBN 978-9975-4316-9-9.
- ȘAVGA L., ȘAVGA G., SURUGIU T. Introduction to E-Commerce and E-Business (Introducere în e-comerț și e-business). Chișinău: UCCM, 2013. 316 p. (14,4 c.a.), ISBN 978-9975-114-56-1.
- ȘAVGA L., ȘERBAN N. Improving Trade Infrastructure and Efficient Operation of Consumer Cooperatives (Perfecționarea infrastructurii și eficientizarea funcționării comerțului din cadrul cooperăției de consum). Chișinău: TCUM, 2011. 220 p. ISBN 978-9975-4297-3-3.
- TROFIMOV V. Gross Taxation, Net Taxation. Case Study: Romania and the Republic of Moldova (Fiscalitate brută, fiscalitate netă. Studiu de caz: România și Republica Moldova)/ V.Trofimov, A.Stratan, E.Pădurean, A.Timuş etc. Bucharest: Publishing house of Romanian Academy, 2013, 158 p. ISBN 978-973-27-2300-5.
- TUHARI T., MALECA I., FULGA V. Accounting (Contabilitate). TCUM Publishing Unit. - Chișinău 2012. - 286 p. (17,9 c.a.), ISBN 978-9975-4344-6-1.

International cooperation experience:

- 144544 - TEMPUS 1- 2008 – 1 - FR JPHES „DEVELOPMENT OF PARTNERSHIPS WITH MOLDOVAN ENTERPRISES” - period of implementation: 2008-2011.
- 516597-TEMPUS-1-2011-1-FR “CRÉATION RÉSEAU UNIVERSITÉS NUMÉRIQUES THÉMATIQUES EN SCIENCES APPLIQUÉES ET SCIENCES ÉCONOMIQUES EN MOLDAVIE (CRUNT)”, 2011 – 2014.
- 530181-TEMPUS-1-2012-1-DE-TEMPUS-SMGR “INTEGRATED UNIVERSITY MANAGEMENT SYSTEM: BORROWING THE EUROPEAN EXPERIENCE OF THE PARTNER COUNTRIES (INURE)”, 15.10.2012 - 15.10.2015.
- 544191-TEMPUS-1-2013-1-PT-TEMPUS-JPCR – “LICENCE MASTERS PROFESSIONNELS EN MANAGEMENT DES ACTIVITÉS HÔTELIÈRES POUR LE DÉVELOPPEMENT DE L’INDUSTRIE TOURISTIQUE EN GÉORGIE, AZERBAÏDJAN ET MOLDAVIE (LMPH)”, 2013-2016.



Key words on core competencies:

Domestic trade; consumer co-operatives; competitiveness; sustainable development.

Horizon 2020 relevant call: area of interest:

Industrial Leadership	▪ Innovation in SMEs
Societal challenges	▪ Food security, sustainable agriculture and forestry, marine and maritime and inland water research



PHILOSOPHY AND ANTHROPOLOGY DEPARTMENT, MOLDOVA STATE UNIVERSITY

Organization contact data:

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Title and name of the contact person; position:

Head of Anthropology and Philosophy department	Dr., Prof. Eudochia SAHARNEANU
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

In the last 20 years Philosophy and Anthropology Department activity was determined by the complexity and depth of the processes that have marked the last decade of the twentieth century. Thus, since the 90s of the XX century, Philosophy and Anthropology department begin exploiting new research directions and promoting the knowledge in the fields of The history of national and universal philosophy, Philosophy and Methodology of science, Social philosophy, Philosophy of history, Philosophy of culture, Philosophy of language, Philosophy of communication, Political philosophy and so on Promoting teachers with a multidisciplinary training is a major objective of the Department. One of the major objective of the department is the promotion of teachers with a multidisciplinary education. Under a new educational paradigm, european one, this fact allowed to start preparing specialties in new areas. In the spirit of interdisciplinary paradigm, department in 2005 initiated the preparation of a new specialty- Anthropolgy and simultaneously the valorisation of a new research direction- Contemporary Debates in Anthropology. Behind this, the research activity of department are doing around more others 3 research directions: Actual problems of contemporary philosophy, Philosophy and methodology of science, The history of national and universal philosophy.

The department have 14 members, 8 of them are PhD. For the last years of activity, the department and their members got as results:

- The organization and development of 5 republican methodological seminars, 6 scientific seminars, 65 scientific conferences (university, interuniversity, international).
- The publishing of national and international articles - 84, 4 monographs, 3 special courses and manuals, online publications- 5.

Expertise / Competences / Technologies / RTD know-how:

The department carries research in the fields of:

- European social philosophy.
- Philosophy of history.
- Contemporary civilizational processes.
- Hermeneutics and phenomenology.
- Philosophy as therapy.
- Postmodern theories and practices.

International cooperation experience:

The department during the years had many relations of collaboration with others universities, specially from Romania, such as: Alexandru Ioan Cuza University, Iasi, Babes-Bolyai University, Cluj Napoca etc.

The department had strong collaboration in last 10 years with International Foundation for Science and Culture "Stefan Lupaşcu", Iaşi. The result of collaboration was the publishing of 10 volumes of material and three monographs.

Also, the members of department was involved in some individual international projects/programs like:

- International program- Cultural policy exchange workshop cycle 2014, organized by Regional Monitoring and Capacity Building Unit of Eastern partnership culture programme;
- Academic internship in the Research team of Philosophical Rationality and Knowledge, Toulouse II – Le Mirail University;



- Postdoctoral internship in Erasmus Mundus External Cooperation Window, Lot 7 program, University of Deusto, Bilbao, Spain; He developed online courses, external quality assurance, UNESCO, 2010.

Key words on core competencies:

Mentalities and social imaginary; contemporary philosophical discourse; philosophical counseling; philosophy with children; Philosophy of Everyday Life/the Quotidian.

Horizon 2020 relevant call: area of interest:

Excellent science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions
Societal challenges	<ul style="list-style-type: none"> ▪ Health, demographic change and wellbeing ▪ Europe in a changing world - inclusive, innovative and reflective Societies ▪ Secure societies - Protecting freedom and security of Europe and its citizens
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Twinning of research institutions ▪ ERA chairs
Other	<ul style="list-style-type: none"> ▪ Science with and for Society



CENTER OF QUALITATIVE RESEARCH IN ANTHROPOLOGY, MOLDOVA STATE UNIVERSITY

Organization contact data:

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Website	www.usm.md

Title and name of the contact person; position:

Head of Department	Dr., Prof. Eudochia SAHARNEANU
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The center was created in 2008 as a result of collaboration with UNICEF Moldova realizing, consecutively for two years, researches for this international organization.

The center provides qualitative and anthropological researches for various stakeholders from Republic of Moldova and abroad, state institutions or NGO that have as interest the study of humanity, society and different others process related to the transformation of it. The anthropological research is new for Republic of Moldova that offers an holistic, but also interdisciplinary approach. Besides the fact that anthropological research is empirical one, its results have a prognosis effect, that could be used by stakeholders in the decision process.

The mission of the Center is to facilitate the understanding of causes, consequences and effects of social and cultural changes on society development. Through anthropological research, the Center has as purpose to influence on policies formation and discussions, behaviors and organizations in Republic of Moldova.

The methodology that is used is qualitative one, but also quantitative.

At the center are working 10 persons that have experience in the research field and which were involved in many international exchange programs. During the years were organized 10 conferences for the presentation of the results of different researches projects. Was published 7 research reports.

Expertise / Competences / Technologies / RTD know-how:

The Center carries research in the fields of:

- Cultural and multicultural studies.
- Institutional anthropology.
- Phenomenology of migration.
- Gender relations.
- Urban and rural anthropology.
- Ethnic relations.

International cooperation experience:

The center was created in result of the collaboration between Moldova State University and UNICEF Moldova.

From 2007 the members of the center was involved in realization of research projects, that have also an international aspect, such as:

- Emotional evolution of the children which parents are abroad, realized for UNICEF Moldova.
- Emotional Intelligence evaluation of the children affected by violence in school, realized for UNICEF Moldova, Comparative stadium of violence in school: Transnistria and Moldova, realized for UNICEF Moldova with the support of SIDA (Swedish International Development Cooperation Agency), Sweden.
- Reproduction Health in rrome communities, relized for UNFPA.
- Domestic violence in rrome communities, realized for UNFPA.
- Available taboo and rites of passage in juvenile prison – GOIAN, realized for NORLAM.

Key words on core competencies:

Migration and social integration; qualitative research in anthropology; development studies; organizational management; intercultural communication.



Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> Marie Skłodowska-Curie actions
Societal challenges	<ul style="list-style-type: none"> Europe in a changing world - inclusive, innovative and reflective Societies Health, demographic change and wellbeing Secure societies - Protecting freedom and security of Europe and its citizens
Spreading excellence and widening participation	<ul style="list-style-type: none"> Teaming of excellent research institutions and low performing RDI regions Twinning of research institutions ERA chairs
Other	<ul style="list-style-type: none"> Science with and for Society



**THE DEPARTMENT OF ROMANIAN HISTORY, WORLD HISTORY AND ARCHAEOLOGY,
MOLDOVA STATE UNIVERSITY**

Organization contact data:

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Title and name of the contact person; position:

Head of department	Dr., Prof. Ion EREMIA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Faculty of History and Philosophy has been created on October 1, 1946. Subsequently the Faculty had witnessed various restructuring and re-branding stages.

The Department of Romanian History, World History and Archaeology – created in June 2013 – is in charge of the History degree program. The Department is structured in 3 sections (History of Romanians, World History and Archeology), 3 centers of research (Center for Interdisciplinary Studies, Center for the Study of Totalitarianism and Center for the Management of the Cultural Heritage), ProMemoria Institute of Social History, Laboratory for Scientific research 'Tracology' and Museum of Antiquities named after Tudor Arnaut and Numismatic Colloquium. There are 31 teaching and research staff at the Department: 7 full Professors and having all the degree of Doctor Habilitat, 14 Associate Professors, doctors (Ph.D.), 3 Senior Lecturers and 6 Lecturers, 1 auxiliary personnel. Out of the 31 staff members, 22 are titulars, and 9 are employed through non-titulars (internal non-titulars – 4, external non-titulars – 5).

The Department is responsible for the training of specialists in 5 study programs at the 1st level, BA, 180 credits in the domain of Humanistic disciplines as follows: History, Archeology, Museum Studies, Ethnology, Study of Religions; There are also 6 programs at the level 2nd master, as follows:

- 2 research study programs of 120 ECTS credits: Comparative Historical Studies; and Archaeology and Ancient History.
- 4 study programs of professionalisation of 120 ECTS credits each: State and society in the historical perspective. Forms of governance, national security and international relations), Management of Cultural Heritage, History Civilizations of South East Europe, History, Culture and Religions.

The research activities of the Department have resulted in the last 5 years (2009-2014) in the following publications:

- Monographs, collections of documents, and dictionaries – 33.
- Scientific articles published in Moldova and abroad - 234.
- Organization of 5 national and 14 international conferences.

Expertise / Competences / Technologies / RTD know-how:

The Center carries research in the fields of:

- Comparative historical studies of the Romanian and Western Area.
- Cultural and archaeological heritage.
- Study of Totalitarian Regimes.
- Socio-political and cultural changes of the Bessarabian society between the wars.
- Religious studies.
- Interdisciplinary studies.

International cooperation experience:

The members of the Department are coordinating 3 international research projects: Nation, Identität, Rechtsstaat. Begriffsgeschichte im rumänischsprachigen Raum, financed by DAAD and Moldova-Institut Leipzig; Violence and repression as discourse and practice in South Eastern Europe: an historical and comparative perspective of the SCOPES program of Swiss National Science Foundation; The Attitude of Moldovan Youth



toward Religion and Human Rights financed by the Embassy of the United States; and 4 national research project: Thraco-Getians in the East Carpathian areas in the 1st millennia BC (2006-2010); East Carpathians Communities in the 1st millennia BC – first half of the 1st millennia AD in the South East European context; Study and Research of documentary heritage related to the history of the Republic of Moldova; and two projects financed by the Academy of Sciences of Moldova related to the organization of scientific manifestations: 1. International Scientific Conference on Violence: Discourse, Practice and Message in the South East Europe (2012) and School, education and research – from ideological restrictions to European democratic values (2014). Members of Department also participate in the implementation of 6 national and 5 international projects.

Key words on core competencies:

History; archeology; cultural heritage; religious studies; history of arts.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Policy Support Facility (PSF) ▪ Twinning of research institutions ▪ ERA chairs ▪ Supporting access to international networks for excellent researchers and innovators
Other	<ul style="list-style-type: none"> ▪ Science with and for Society



**CENTER FOR INTERDISCIPLINARY STUDIES CHISINAU – ORADEA,
MOLDOVA STATE UNIVERSITY**

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Website	www.usm.md

Title and name of the contact person; position:

Dean of The Faculty of History and Philosophy	Dr., Assoc. prof. Ion GUMENAI
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The idea of establishing such a center came, in it's initial phase, for the research of imperial politics and their impact, which demonstrated the possibility of faithful mirroring only through the analysis of the imperial through a multidisciplinary point of view, which fall under the scope of the study of imperial and post-imperial studies, at the confluence of the three Empires. The purpose of such a scientific approach is the investigation of the consequences of imperial policies in general, and for the eastern and western extremities of the Romanian space in particular. From the methodological perspective, the comparative method offers the possibility of highlighting the particularities and similarities of economic, administrative, religious, military and cultural policies promoted by the Russian Empire, The Ottoman, Habsbourg, Austro-Hungarian Empire and later, by the USSR. The new and classic research methods used by the authors, the introduction of new documentary information or the reinterpretation of the classic ones, prove that the subject of „empires” in the history of space and society is still poorly researched. This allows us to take further steps to address imperial interdisciplinary topics hoping, at the same time, that the members of the center will be able to achieve major contributions to this subject.

At the moment, there are 12 PhDs with rich experience and knowledge activating at the center, who organized 12 international conferences and symposiums in the last 5 years, whose results have been realized in 7 volumes of collections of studies and articles.

Expertise / Competences / Technologies / RTD know-how:

The Center carries research in the fields of:

- Empire studies.
- The history of totalitarian and democratic regimes.
- The study of ethnic and religious relations.
- The interdisciplinary study of history and philology.
- The study of historical demography.
- The interdisciplinary study of numismatics, paleography, heraldry.

International cooperation experience:

The very idea of the Center's existence assumes an international collaboration between two – “USM”, Republic of Moldova and “Universitatea din Oradea”, Romania.

This was extended by filling the application to create a network within the CEEPUS program.

The center also maintains connections with universities in Iași, Romania, Cluj, Romania, Padova University, Italy, Leipzig University, Germany, European University in Sankt – Petersburg, Odessa University, Ukraine, etc.

The members of the Center are also involved in other projects such as:

TEMPUS: QUAEM. Development of Quality Assurance in higher Education in Moldova

SCOPES: Are There Essential differences between East and West? South Eastern and Western Europe in a comparative framework.

Violence and repression as discourse and practice in South Eastern Europe: an historical and comparative perspective

DAAD: Nation, Identität, Rechtsstaat. Begriffsgeschichte im rumänischsprachigen Raum.

University of Wuerzburg, Germania: **Religion and Human Rights Research project:** The Attitude of Youth toward Religion and Human Rights.



Key words on core competencies:

History; cultural heritage; religion studies; historical-philological studies; demographic studies.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none">▪ Marie Skłodowska-Curie actions
Societal Challenges	<ul style="list-style-type: none">▪ Health, demographic change and wellbeing▪ Europe in a changing world - inclusive, innovative and reflective Societies▪ Secure societies - Protecting freedom and security of Europe and its citizens
Spreading excellence and widening participation	<ul style="list-style-type: none">▪ Twinning of research institutions▪ ERA chairs
Other	<ul style="list-style-type: none">▪ Science with and for Society



THE INSTITUTE OF PHILOLOGY OF THE ACADEMY OF SCIENCES OF MOLDOVA

THE SECTOR OF LEXICOLOGY AND LEXICOGRAPHY;

THE SECTOR OF GRAMMAR;

THE SECTOR OF LITERARY HISTORY, DIALECTOLOGY AND ONOMASTICS;

THE SECTOR OF PREMODERN AND MODERN LITERATURE;

THE SECTOR OF CONTEMPORARY LITERATURE.

Organization contact data:

Address	1, Stefan cel Mare bd., Chisinau, MD-2001, Republic of Moldova
Telephone	(+373-22) 27-27-19
Fax	(+373-22) 27-27-19
E-mail	cancelarie.ifilolog@asm.md
Website	www.if.asm.md

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Title and name of the contact person; position:

Director	Dr. hab. Vasile BAHNARU
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Institute of Philology of The Academy of Sciences of Moldova is a public institution which was founded in 1958 being named for the first time: The Institute of The Language and of The Literature. In 1991 it was divided into The Institute of Linguistics and The Institute of History and literary Theory. Later, in 2006, these two institutes were reformed in the actual Institute of Philology, employing 75 researchers.

The Institute of Philology is involved in fundamental and applicative research of the evolution and the development of our national language, of its history and actual state, of its dialects and idioms, of the study of the norms, of the phonetic, morphologic and syntactic structure of the literary language.

The Institute of Philology is engaged in several institutional projects and moreover is implicated additionally in different progressive collaborations with The Romanian University and Institute of Research. Another research achievement is the organization of The World Congress of Eminescologists, this year being organized the II-nd Edition of The Congress.

Expertise / Competences / Technologies / RTD know-how:

Competences:

- The enhancing and the promoting of the linguistic and literary-folklorist heritage of The Republic of Moldova in the European context;
- The investigation of the theoretic concepts and the contemporary methods of literary research, of the literature and the bessarabian culture from the XVII-XXI in European context;
- The investigation of Romanian folk treasure (Bessarabia, Transnistria, the north of Bucovina, transcarpathian Region);
- The study of the discursive-pragmatique syntax, of the lexical system of the language (analyze and semantic and lexicographic description), of the origin and the national onomastic's lexical typology;
- The research of dialectal varieties from the perspective of the computerization of the linguistic atlases and of the dialectal texts;
- The investigation of the criteria of the language periodization.

RTD know-hows:

- The publication of the magazines: "Philologia", "Buletin de lingvistica", "Metaliteratura";

The publication of the dictionaries:

- The Illustrated Explanatory Dictionary, cl. I-IV, 2014,
- The Usual Explanatory Dictionary, 1999,
- The Dictionary of the Synonyms of the Romanian language, 2014,
- The Dictionary of paronyms, 2007,
- Summary of Maximum and Meditations, 2014,
- The Dictionary of antonyms, 2013.



International cooperation experience:

The World Congress of Eminescologists including critics and translators of Eminescu's opera from 10 countries.

Key words on core competencies:

Linguistics, literature, terminology, lexicology, folklore.

Horizon 2020 relevant call: area of interest:

Excellent Science	▪ Research infrastructures
Societal Challenges	▪ Europe in a changing world - inclusive, innovative and reflective Societies
Spreading excellence and widening participation	▪ Supporting access to international networks for excellent researchers and innovators



**PHILOLOGY AND HISTORY DEPARTMENT, HISTORY AND SOCIAL SCIENCE CHAIR, SCIENTIFIC LAB
"CLIO", "B.P. HASDEU" UNIVERSITY OF CAHUL**

Organization contact data:

Address	1, Piata Independentei str., Cahul, Republic of Moldova
Telephone	(+373) 60068209
E-mail	gheletchii.ion@gmail.com
Website	www.usch.md

Title and name of the contact person; position:

Head of Department	Dr. Ion GHELETCI
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

CLIO Research Laboratory was established in 2014. Members of the research laboratory of the Department members are teachers (4 PhD, 3 lecturers), master (5) and students (5). The research objectives of the laboratory are to study the Romanian history and world history teaching, and studying the history of local land.

In the last 5 years laboratory members have published over 30 articles on the above-mentioned topics, participated with subjects of communication within national and international conferences.

The main goal is to edit a monograph on the history of southern Moldova.

Expertise / Competences / Technologies / RTD know-how:

- Understanding and use of specialized language;
- Understanding and representing historical time and space;
- Knowledge and interpretation of historical sources;
- Formation of democratic behavior and general human values;
- Using digital skills in information technology.

International cooperation experience:

- "Dunarea de Jos" of Galati, Romania - studying the Lower Danube area in ancient times.
- Humanistic Academy, Pulutsk, Poland - academic mobility period.
- Alma Mater Studiorum University of Bologna (Italy) - TEMPUS JEP project on "Higher Education System Development for Social Partnership Improvement and Humanity Sciences Competitiveness - HESDESPI".
- University "A. I. Cuza" Iasi Romania - Higher Education Quality Management.
- University of Vilnius, Lithuania - academic mobility period.

Key words on core competencies:

Civic competence and moral; cultural and intercultural self-knowledge and self-realization; communicating in a foreign language.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Research infrastructures ▪ European Research Council
Industrial Leadership	<ul style="list-style-type: none"> ▪ Leadership in enabling and industrial technologies (LEIT) ▪ Access to risk finance
Societal Challenges	<ul style="list-style-type: none"> ▪ Europe in a changing world - inclusive, innovative and reflective Societies ▪ Secure societies - Protecting freedom and security of Europe and its citizens
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Supporting access to international networks for excellent researchers and innovators ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions ▪ ERA chairs
Other	<ul style="list-style-type: none"> ▪ Science with and for Society

INSTITUTE OF LEGAL AND POLITICAL RESEARCH OF THE ACADEMY OF SCIENCES OF MOLDOVA

Organization contact data:

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Telephone	(+373-22) 27-14-69
Fax	(+373-22) 27-14-69
E-mail	sprinceans@yahoo.com
Website	www.iiesp.asm.md

Title and name of the contact person; position:

Scientific Secretary of ILPR	Dr. Serghei SPRINCEAN
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Institute of Legal and Political Research (ILPR) of the Academy of Sciences of Moldova is one of the leading academic and research centers in Republic of Moldova in such fields as political sciences, strategic studies, international relation theories, European studies, security research, sociological investigations and legal studies. The ILPR has been active almost 25 years since the reorganization of the Academy of Sciences of Moldova after the country's proclamation of independence back in 1991. Main interest of the ILPR's multidisciplinary research team is the investigation of the process of European integration of Republic of Moldova, its social, political transition, and institutional modernization. Participation in the Eastern Partnership became in the last 5 years an important civilizational and security challenge for Republic of Moldova, especially in the context of increasing vulnerability and destabilization in the East European Region, caused by the military conflict in Ukraine, at the border of the EU and of Republic of Moldova. Research conducted by the ILPR representatives has addressed broad aspects of the transition from totalitarianism to democracy, contemporary political system of the Republic of Moldova, the development of political pluralism and civil society approached in light of the main contemporary theories and political ideologies; processes of European integration and international relations, social development and issues of national and international law. A constant scientific concern was the scientific work carried out in sociology and legal sciences. The results of these investigations are presented in numerous publications (monographs, studies, articles in collections and journals), conferences, colloquia and symposia with national and international character, both organized by the Institute and in collaboration with foreign partners.

Expertise / Competences / Technologies / RTD know-how:

- Legal Studies.
- International Relations.
- Security Studies.
- Political Sciences.
- Sociology.

International cooperation experience:

Ongoing institutional projects of ILPR:

- Re-dimensioning of external and internal politics (2015-2018).
- Social-political modernization of Republic of Moldova in the context of extension of European integration process (2015-2018).
- Development of the legal framework of Republic of Moldova in the context of security necessities and assuring of its European route (2015-2018).
- Formation of middle class in conditions of society transformation and association of Republic of Moldova to European Union (2015-2018).
- Past institutional projects of ILPR:
- 11.817.07.22F – Opportunities of revaluation of European integration option for Republic of Moldova (2011-2014).
- 11.817.07.24F – Evolution of social stratification in conditions of social transformation and European integration of Republic of Moldova (2011-2014).
- 11.817.07.03F – Principles and priority directions of development of state of law in the context of



European Integration (2011-2014).

- 11.817.07.21F – Interaction between state and civil society in Republic of Moldova in the context of deepening of democratic reforms (2011-2014).
- 09.817.07.005F – Resources, mechanisms and effects of realization of political power in Republic of Moldova (2009-2010).
- 11.817.07.23F – Axiological decentralization in the society based on knowledge (philosophic aspects) (2011-2014).
- 11.817.07.25A – The impact of modification of demographic structure of the population on the social-economic development of Republic of Moldova: retrospective and prospective evaluation (2011-2014).
- 11.819.08.03A – Demographic perspectives on the Moldavian village: retrospective analysis and demographic prognosis (2011-2012).
- 09.817.07.004F – Dimensioning of social, cultural-spiritual values in the context of neighborhood with European Union (2009-2010).
- 09.817.08.001A – Social-demographic evolution of the population fit to work and its impact on social-economic development of Republic of Moldova (2009-2010).
- 09.819.07.03A – Establishing the infrastructure of enhancing of the participation of scientific community of Republic of Moldova to the Framework Program 7 of European Union (2009-2010).
- 06.410.023F – Optimization of political system and of assuring social cohesion in Republic of Moldova in the perspective of European integration (2006-2008).
- 06.410.024F – Human development in condition of transformation of society: social aspects (2006-2010).
- 06.410.022F – Connection of national and general-human values in Republic of Moldova in the context of new neighborhood with European Union (2006-2008)
- 06.411.008A – Demographic transformation and their influence on family relations: social-medical, demographic, social-psychological problems (2006-2008).

Bilateral research project between the Academy of Sciences and Fundamental Research Fund of Belarus:

- 0.820.07.20BF – The noospheric orientation in the field of sustainable development of Republic of Moldova and of Belarus (2010-2011).
- 10.820.08.19BA – Main challenges for demographic security: tangencies and divergences in Belarus and Moldova (2010-2011).
- 08.820.08.03BF - Advanced technologies in the structure of sustainable development of innovative systems in Belarus and Moldova: the problem of noosphere values consistency (2008-2009).

Bilateral research project between the Academy of Sciences of Moldova and the Ministry of Education and Science of Ukraine:

- 10.820.07.20UF – Functionality and impact on NGOs from Ukraine and Moldova on the decision-making factor (2010-2011).
- 10.820.07.19UA – Determinant factors of marriage and natality in Ukraine and Moldova (2010-2011).

Bilateral research project between the ASM and the Humanitarian Scientific Fund of Russian Federation:

- 06.05CRU - The optimization of transformational processes in Moldova (post-soviet period) (2006-2007).

International research projects for young researchers, financed by ASM and INTAS:

- 06.5417MD - The impact of socio-economic transition on public healthcare system of Moldova (2006-2007).
- 06.4625MD - Medical, social and demographic aspects of health state of elderly men in Moldova (2006-2007)."

Key words on core competencies:

Law; international relations; security; society, politics.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions ▪ European Research Council
Industrial Leadership	<ul style="list-style-type: none"> ▪ Leadership in enabling and industrial technologies (LEIT)
Societal Challenges	<ul style="list-style-type: none"> ▪ Health, demographic change and wellbeing
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Teaming of excellent research institutions and low performing RDI regions
Other	<ul style="list-style-type: none"> ▪ Science with and for Society



**LABORATORY OF SCIENCE AND METHODOLOGICAL RESEARCH IN ECONOMICS,
BALTI STATE UNIVERSITY "ALECU RUSSO"**

Organization contact data:

Address	38, Puskin str., Balti, MD-3100, Republic of Moldova
Telephone	(373 231) 52-4-30
E-mail	movirina@mail.ru
Website	www.usarb.md/en

Title and name of the contact person; position:

Researcher	Dr. Irina MOVILA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The laboratory was founded in 2010. The main goal of the laboratory is to promote scientific research and the development of professional potential of teachers/students in the field of economy. **The basic aims are:** research new ideas, methods, ways, national and international experience; studying the experience of other Center's, laboratories, Universities in the Republic of Moldova and abroad; organization and carrying out of scientific researches, polls, scientific conference; professional assistance: marketing research of the market of sales, analysis of economic and financial activity of the enterprise, projects, plans, descriptions, etc.

Expertise / Competences / Technologies / RTD know-how:

Labour market, strategic management, strategic competitiveness, staff's professional potential, staff's competitiveness, strategies of staff development, personnel policy, personnel's marketing, programs of market-oriented training, assessment of competitiveness, regional policy.

International cooperation experience:

Memberships: European Retail Academy of Germany; Visegrad University Association of Slovakia. Collaboration with the Slovak University of Agriculture in Nitra; Alexandru Ioan Cuza University, Iași, Romania; Petru Maior University, Tirgu-Mures, Romania; Lviv State Agrarian University, Ukraine; Batumi Shota Rustaveli State University, Georgia. International Projects: TEMPUS IV: MODEP. CEEPUS III network: CIII-SK-0044-06-1112 Applied Economics and Management.

Key words on core competencies:

Economy; management; human potential.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> Marie Skłodowska-Curie actions European Research Council
Industrial Leadership	<ul style="list-style-type: none"> Leadership in enabling and industrial technologies (LEIT) Access to risk finance
Spreading excellence and widening participation	<ul style="list-style-type: none"> Supporting access to international networks for excellent researchers and innovators Teaming of excellent research institutions and low performing RDI regions Twinning of research institutions
Other	<ul style="list-style-type: none"> Science with and for Society

**LABORATORY OF RESEARCH ON COMPARATIVE LAW,
FACULTY OF LAW, BALTI STATE UNIVERSITY "ALECU RUSSO"**

Organization contact data:

Address	38, Puskin str., Balti, MD-3100, Republic of Moldova
Telephone	(373-231) 52-4-30
E-mail	vpinzari@gmail.com
Website	www.usarb.md/en

Title and name of the contact person; position:

Head of the Laboratory	Dr., conf.univ. Veaceslav PINZARI
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The laboratory was founded in 2006 by a team of researchers from the Faculty of Law, which performs research in the field of law, contributing to the improvement of the national legislation. The Laboratory activities are carried by 5 people, of which 3 are Doctors of Science.

As a result of research conducted in the Laboratory, there have been 3 monographs published, over 20 scientific papers, presentations at national and international scientific events, some of them organized at the Faculty of Law.

Expertise / Competences / Technologies / RTD know-how:

- Civil Law.
- Family Law.
- Labour Law.
- Commercial Law.
- International Trade.

International cooperation experience:

Collaboration with the University of Bucharest, Cluj-Napoca, Targu-Mures, Sibiu, Iasi (Romania), Moscow (Russia).

Key words on core competencies:

Private law; comparative law; legislation; project; cooperation.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions ▪ European Research Council
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Supporting access to international networks for excellent researchers and innovators ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions
Other	<ul style="list-style-type: none"> ▪ Science with and for Society

TIRASPOL STATE UNIVERSITY

Organization contact data:

Address	5, Gh. Iablocikin str., Chisinau, MD-2069, Republic of Moldova
Telephone	(+373-22) 75-49-24
E-mail	valentina_botnari@yahoo.com
Website	www.ust.md

Title and name of the contact person; position:

Head of department	Dr. Valentina BOTNARI
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Tiraspol State University (TSU) is the oldest higher education institution in Moldova. Since 1930, the university has been carrying on a tradition of excellence and innovation in the fields of education and research. Once the Bologna Process was put into practice, TSU adopted the two cycles of higher education qualification offering 13 Bachelor and 10 Master specializations in Sciences and Humanities.

Post-graduate education is accomplished via 11 Doctoral and Post-doctoral specialties. With about 4500 students and 220 academic staff the university encourages competence-based education and offers the opportunity of joint academic research or strategy initiatives.

Expertise / Competences / Technologies / RTD know-how:

- Student-centered Psycho-pedagogical curriculum.
- Competence-based education.
- Higher education quality.
- National Framework of Qualifications.
- Guidelines for Early Age and Preschool Education.

International cooperation experience:

2006–2008: Tempus Project “Quality assurance in implementing Bologna Objectives”. Tempus Project “Transferring the EU Assessment to Moldova’s Universities”.

Tempus Project “Developing standards for postgraduate education in universities in Moldova. Profile Psycho-pedagogy. Engineering Profile”.

2009–2011: Tempus Project “WETEN – Western–Eastern Teacher Education Network”.

Key words on core competencies:

Lifelong learning; curriculum elaboration and reform; education policy; educational management; early age and preschool education.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions ▪ European Research Council
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Supporting access to international networks for excellent researchers and innovators ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions
Other	<ul style="list-style-type: none"> ▪ Science with and for Society



TRAINING AND SOCIAL RESEARCH INSTITUTE, FREE INTERNATIONAL UNIVERSITY OF MOLDOVA

Organization contact data:

Address	52, Vlaicu Parcalab str., Chisinau, MD-2012, Republic of Moldova
Telephone	(+373-22) 22-00-29
E-mail	ifcs_ulim@mail.ru
Website	www.psihologie.ulim.md/ru/centru-de-formare-%C8%99i-cercetare-social%C4%83

Title and name of the contact person; position:

Director	Dr. Svetlana RUSNAC
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The institute is a scientific subdivision within the Faculty of Psychology and Social Assistance. It was founded in 2005 on the basis of the University Centre of Psychological Advice. The profile of research consists in investigations of the mechanisms and modalities of psychosocial and media impact on mass consciousness. The accreditation was provided by the National Committee of Academic Accreditation in 2008. Staff: 19, Dr.h. – 1, PhD – 4. During the last 5 years over 100 publications have been issued, including about 30 monographs.

Expertise / Competences / Technologies / RTD know-how:

Surveys on the problems of individual and human groups within the context of social changes: social adaptability, change of mentality, counteraction of negative phenomena, leadership etc. Training in methods of psychological and social assistance, training of specialists in Psychology, Sociology and Social Assistance.

International cooperation experience:

2008–2009: “Psychological and social assistance to children from disadvantaged families” in partnership with Terre des Hommes, Lausanne, Switzerland.

“Psycho–sociological research on problems of the sexual minority” in partnership with GenderDoc, Moldova and Cordaid, Holland.

2008–2009: “Research of the family abuse phenomenon and the public opinion on this problem” with UNFPA.

2009: Development and validation of analytical programs for mastership studies “Specialised assistance in cases of family abuse” with UNFPA.

2009: Training “Family Abuse – Multidisciplinary Approach, Protection and Rehabilitation of Victims” with UNFPA.

2009–2010: “Prevention of conflicts from the perspective of social science”, IFCS University of Hamburg.

Key words on core competencies:

Research; training; social; psychology; sociology.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> Marie Skłodowska-Curie actions European Research Council
Spreading excellence and widening participation	<ul style="list-style-type: none"> Supporting access to international networks for excellent researchers and innovators Teaming of excellent research institutions and low performing RDI regions Twinning of research institutions
Other	<ul style="list-style-type: none"> Science with and for Society



**INSTITUTE OF PHILOLOGICAL AND INTERCULTURAL RESEARCHES,
FREE INTERNATIONAL UNIVERSITY OF MOLDOVA**

Organization contact data:

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E-mail	inst_cult2006@yahoo.fr
Website	www.ulim.md

Title and name of the contact person; position:

Director	Dr. Elena PRUS
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Institute of Philological and Intercultural Researches was founded in 2005. The Institute performs fundamental and applied investigations in the field of philology using an outstanding scientific and teaching potential of experienced researchers who possess up-to-date visions upon the theoretical pragmatic study: 7 University Professors, PhD habilitatus; 17 Associate Professors, PhD and 11 post-graduate researchers. The Research Team issues the following publications: Intertext, Francopolyphonie, Symposia and Parcours Series, monographs, didactic supports, posted on the Institute web site.

The Institute has organized more than 20 international conferences and seminars.

Expertise / Competences / Technologies / RTD know-how:

The Institute develops its activities within 5 scientific directions: Linguistics and Glottodidactics, Translation and Terminology, Literature and Interculturality, Didactical and Managerial Processes in Higher Education, Communication and Mass-Media.

International cooperation experience:

Confucius Institute, People's Republic of China, Beijing (International Conference).

AUF, French Alliance, Francopolyphonie Project (Editions 2006–2010).

University of Montpellier, France (Collaboration on Publications).

University "Jean Monnet", Saint-Etienne (Master's Project).

University "Al. I. Cuza", Iași, Romania (organization of Conferences).

University "Spiru Haret", Bucharest, Romania (bilateral expertise).

Key words on core competencies:

Languages; literature; terminology; translation; interculturality.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> Marie Skłodowska-Curie actions European Research Council
Spreading excellence and widening participation	<ul style="list-style-type: none"> Supporting access to international networks for excellent researchers and innovators Teaming of excellent research institutions and low performing RDI regions Twinning of research institutions
Other	<ul style="list-style-type: none"> Science with and for Society



**INSTITUTE OF STRATEGIC INVESTIGATIONS IN ECONOMY,
FREE INTERNATIONAL UNIVERSITY OF MOLDOVA**

Organization contact data:

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Website	www.ulim.md

Title and name of the contact person; position:

Dean	Dr. Iulia LACHI-DRAGALIN
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Accredited in June 2008. Research profile – Strategies and mechanisms for restructuring the economy in Moldova. Staff: 1 corresponding member of the ASM, 8 Dr habilitat, 7 Drs, 8 research assistants. 2 specialized scientific councils (academic degrees in economics). In 2010 it reviewed 10 doctoral theses of citizens of Moldova, Romania and Israel. Scientific journal “Economic Studies” category “C”.

Domains of the research:

- The strategy of attracting investment in Moldova.
- The global economy and migration processes in Moldova.
- Strategy of development of international tourism in the light of globalization processes.
- Formation of strategic perspective of national economic development in post-crisis period.

Expertise / Competences / Technologies / RTD know-how:

Strategies and mechanisms for restructuring the economy of Moldova.

International cooperation experience:

- Romanian Academy, Iasi Branch, Romania.
- Minsk Institute of Management, Belarus.
- Spiru Haret University, Bucharest, Romania.
- Odessa Regional Institute of Public Administration of the National Academy of Public Administration, Office of the President of Ukraine (ORIPA).
- University Tomis, Constanta, Romania.
- University Petru Maior, Targu-Mures, Romania.

Key words on core competencies:

International economic relations; management and marketing; finance and banking; advanced econometric models.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions ▪ European Research Council
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Supporting access to international networks for excellent researchers and innovators ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions
Other	<ul style="list-style-type: none"> ▪ Science with and for Society



**DEPARTMENT OF ECONOMICS, STATISTICS AND ANALYSIS,
STATE AGRARIAN UNIVERSITY OF MOLDOVA**

Organization contact data:

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Telephone	(+373-22) 21-28-08
E-mail	g.baltag@uasm.md
Website	www.uasm.md/ro/facultati/contabilitate/99-economie-statistica-si-analiza/informatii-generale

Title and name of the contact person; position:

Head of department	Dr. Grigore BALTAG
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Department of Economics, Statistics and Analysis is part of the Faculty of Accounting within the State Agrarian University of Moldova. The department consists of 12 persons. For the last 5 years the members of department have published over 60 publications: scientific papers, methodical guides, and articles presented on international conferences.

Expertise / Competences / Technologies / RTD know-how:

Financial analysis of farms and processing companies. The identification of opportunities, strengths and weaknesses of economic efficiency in rural areas. Statistical processing of databases including scientific methods.

International cooperation experience:

BALTAG, G., Priority directions of the problems of land market functioning in Moldova: perspectives and tendencies, In Scientific Papers "Management, Economic, Engineering in Agriculture and Rural Development" (MEEARD).

BALTAG, G. Analysis of the subvention system in the agriculture field of Moldova. In Scientific Papers (MEEARD).

BURCIU, C. Bulgac E. The analysis of productive potential of land fund in agricultural unities of Moldova. In Scientific Papers (MEEARD).

COJOCARU, V. Analysis of the economical means efficiency from agricultural enterprises patrimony. In Scientific Papers (MEEARD).

IGNAT, V. Analysis of money resources flow in "Zavoiul Mare", LTD. CO. In Scientific Papers (MEEARD).

PRISĂCARU, V. The impact of motivational system on the quality of the labour resources management in the agriculture of Moldova. In Scientific Papers (MEEARD).

PRISĂCARU, V.; LITVIN, A. Quantitative and qualitative indices of the human resources management from agrarian sector of Moldova. In Scientific Papers (MEEARD).

Key words on core competencies:

Efficiency; land market; return of assets; labour conditions; debts.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions ▪ European Research Council
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Supporting access to international networks for excellent researchers and innovators ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions
Other	<ul style="list-style-type: none"> ▪ Science with and for Society

LABORATORY OF SCIENTIFIC RESEARCH IN TRADE AND CONSUMER COOPERATION, TRADE COOPERATIVE UNIVERSITY OF MOLDOVA

Organization contact data:

Address	8, Gagarin bd., Chisinau, MD-2001, Republic of Moldova
Telephone	(+373-22) 27-02-03
E-mail	rectorat@uccm.md; lsavga@gmail.com; lcs.uccm@yahoo.com
Website	www.uccm.md/en/

Title and name of the contact person; position:

Rector	Dr. hab. Larisa SAVGA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Trade Cooperative University of Moldova is an institution of higher education and scientific research. The University takes part in the Bologna Declaration program and other international conventions in the domain of higher education. The Laboratory of scientific research makes **complex research in the domains** of consumer cooperation and trade: public catering and acquisitions, manufacturing, logistics, promotion and distribution of the consuming goods, goods' expertise and consumers' protection. The teaching staff includes 86 persons, of which 44 with scientific degrees. Around 2000 persons (students, masters and PhD students) are involved in different projects and researches.

Expertise / Competences / Technologies / RTD know-how:

- Expertise of the projects in the domain of regulating trade activities, participating in elaboration of strategies of developing the trade of Moldova.
- Consulting in starting and developing business in trade.
- Continuous education of employees from trade and consumer cooperation.
- Elaborating educational programs for consumers.
- New methods of goods' expertise having as an aim consumer protection.

International cooperation experience:

2006–2007: TEMPUS “Developing standards for post– graduate education at Moldovan universities”.

2009–2012: TEMPUS “Developpement de partenariats avec les entreprises en Moldavie”.

2005: SOROS Foundation Moldova “Implementation of an institutional system of quality assurance in higher education of Moldova”.

Key words on core competencies:

Economy; trade; consumer cooperation; goods' expertise; consumers' protection.

Horizon 2020 relevant call: area of interest

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions ▪ European Research Council
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Supporting access to international networks for excellent researchers and innovators ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions
Other	<ul style="list-style-type: none"> ▪ Science with and for Society



NATIONAL MUSEUM OF ETHNOGRAPHY AND NATURAL HISTORY OF MOLDOVA

Organization contact data:

Address	82, Mihail Kogalniceanu str., Chisinau, Republic of Moldova
Telephone	(+373-22) 23-88-48
E-mail	office@muzeu.md; director@muzeu.md
Website	www.muzeu.md/

Title and name of the contact person; position:

Director	Dr. Mihai URSU
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The institution was created in 1889. It has 22 researchers, of which 12 are Doctors of Science. The Museum administers about 150.000 museum pieces. The **main scientific contributions are reflected in:** "The Scientific Bulletin. Review of Ethnography", "Natural Science" and "Museology". During the last 5 years the institution has edited 12 monographs, 5 text-books, as well as 145 articles in national reviews and published 47 articles in international publications.

Expertise / Competences / Technologies / RTD know-how:

- Scientific research on the conceptualized new direction Ethno-ecological Researches in Republic of Moldova.
- A number monasteries and unknown stone monasteries were identified on the territory between Bug and Nistru rivers which completes the way of spreading Christianity in Eastern Europe.
- Two wooden churches were restored and conserved: Palanca, Calarasi (XVIIth Century) and the Church from Hiriseni, Telenesti (XVIIIth Century).
- A draft Law on Protection of the Intangible Cultural Heritage.
- The National Strategy of Moldova – to safeguard the intangible cultural heritage of Moldova.

International cooperation experience:

2010: National Inventory of the Intangible Cultural Heritage of Moldova in accordance with the 2003 International Convention for the Safeguarding of the Intangible Cultural Heritage.

2010: "Ethnic Consciousness in Moldova" Academy of Sciences, Vienna, Austria. AOS – Atlas of Eastern and Southeastern Europe. Up-to-date ecological, demographic and economic maps.

2010: Economy and Ritual Study in Moldova, Max-Planck Institute for Social Anthropology, Halle, Germany.

2009: National Training "The Museum Management", UNESCO Moscow Office.

2009: "UNESCO Conventions in the field of protection of cultural heritage in correlation with the national legal framework", Ministry of Culture MNEIN and UNESCO Moscow Office.

2006: "The Folklore and Contemporaneity".

2010: "Ethno-historic-demographic maps", Chisinau.

2010: "Water: History, Resources, Perspectives", the science academies from: Moldova, Romania and Austria.

2010: "Cultural exclusion in Moldova" (part of the Report of Human Development on Social Inclusion in Europe and CSI).

Key words on core competencies:

Mobile cultural heritage; intangible cultural heritage; traditional culture; natural heritage; preserve.

Horizon 2020 relevant call: area of interest

Spreading excellence and widening participation	▪ Twinning of research institutions
Other	▪ Science with and for Society



INTERNATIONAL MANAGEMENT INSTITUTE “IMI-NOVA”

Organization contact data:

Address	9/1, Hristo Botev str., Chisinau, MD-2043, Republic of Moldova
Telephone	(+373-22) 56-87-38
E-mail	office@muzeu.md, director@muzeu.md
Website	www.imi-nova.md

Title and name of the contact person; position:

Rector	Dr. hab. Valentin RAILEAN
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The International Management Institute “IMI-NOVA” is an educational institution (higher education) offering Undergraduate and Graduate studies. The university staff includes over 86 doctors of Economics, university professors and lecturers that are actively involved in research activities.

Notable achievements:

- The Moldova– EU Trade Research that resulted in a mathematical model for export stimulation.
- Studies and calculations on the impact of European Integration and border liberalization on migration.
- The structural analysis of the housing market and the implementation of innovational market management tools.
- A comparative research on IT implementation in the region.

Expertise / Competences / Technologies / RTD know-how:

The institute focuses on studies on European Integration, International Economics and Finance, Foreign Direct Investment and Macroeconomic Policy. The institute is skilled at doing fundamental research, analytical work, comparative studies and market research activities.

International cooperation experience:

- University of Nice “Sophia Antipolis”, Nice, France.
- University of Pierre Mendes, France.
- University of Sorbonne, France.
- The University of Malta “Link Campus”, Malta.
- NOVI University, Netherlands.
- Keele University, Great Britain.
- Degli Studi di Genova University, Italy.
- The National Economic Development Institute, Romania.

International projects and activities:

- TACIS project “Perfecting economic teaching in Moldova”.
- Eurasia Foundation “Excellence in Business and Administration”.
- REAP “Financial Services and Business Management in Moldova”.
- AUPELF-UREF, “Lifelong learning for the Business and Civil Servant Community”.
- USIA “Promoting Development through Higher Education in Moldova”.
- Central European University, “Curriculum Research Centre” and “Course Development Competition” projects; FRANCODE courses to teaching staff.
- “RESEGE – Réseau d’Europe du Sud Est pour l’Enseignement de la Gestion des Entreprises”.

Key words on core competencies:

European economic integration; international investments; labour market; social studies; crisis management.



Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none">▪ Marie Skłodowska-Curie actions▪ European Research Council
Spreading excellence and widening participation	<ul style="list-style-type: none">▪ Supporting access to international networks for excellent researchers and innovators▪ Teaming of excellent research institutions and low performing RDI regions▪ Twinning of research institutions
Other	<ul style="list-style-type: none">▪ Science with and for Society



ACADEMY OF PUBLIC ADMINISTRATION OF MOLDOVA

Organization contact data:

Address	100, Ialoveni str., Chisinau, MD-2070, Republic of Moldova
Telephone	(+373-22) 28 48 52
E-mail	aap@aap.gov.md; cooperare@aap.gov.md
Website	www.aap.gov.md

Title and name of the contact person; position:

Responsible for International Cooperation	Dr. Silvia DULSCHI
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The research activities within the Academy of Public administration are being coordinated by the Centre of Theoretical and Applied Research, which has 4 scientific laboratories. The main accomplishments during the last five years are research works by:

- Popescu T., Political Theory (teacher's guide). Chisinau: Universul 2007.
- Blanoschi A., Economy of the Public Sector (course notes). Chisinau: AAP, 2008.
- Platon M., State Management: issues, searching solution. Chisinau: Universul 2009.
- Manole T., Methodology of Financing the Public Education. Chisinau: UTM, 2010.

Expertise / Competences / Technologies / RTD know-how:

Scientific and Methodological Support in the Edification of the State of Law and the Modernization of Public Administration.

International cooperation experience:

2000–2004: Project "Support to the local public administration and strengthening local governance in Moldova"/Funding: Swedish Agency for International Development (AIDS / SIDA) and SIPU International.

2002–2003: Cooperation with USAID "Local Public Administration Reform Project" (LPARP) had the component: "Efficient information and communication process on the local administration level based on the joint Internet activities" / U.S. Agency for International Development (USAID).

2005–2006: Project "National Strategy for Training the civil servants from local public administration of Moldova"/Funding: Council of Europe.

2006–2011: Project on Public Finances Management/Funding: World Bank and the Swedish Agency for International Development/SIDA.

Key words on core competencies:

Administration; political science; law; economics and management; public finance.

Horizon 2020 relevant call: area of interest

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions ▪ European Research Council
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Supporting access to international networks for excellent researchers and innovators ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions
Other	<ul style="list-style-type: none"> ▪ Science with and for Society

DEPARTMENT OF GENERAL PSYCHOLOGY, STATE UNIVERSITY OF MOLDOVA

Organization contact data:

Address	60A, Mateevici str., Chisinau, MD-2009, Republic of Moldova
Telephone	(+373-22) 57-75-58
E-mail	fpsihologiese@gmail.com
Website	www.usm.md

Title and name of the contact person; position:

Dean	Dr. hab. Vladimir GUTU
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Department of General Psychology has 10 members. Domains of activity: History of Psychology, Cognitive Psychology, Neuropsychology, Introduction to Psychology.

The **scientific activity** in the last five years has been directed at studying the relationship between personality and creativity, during which the researchers have published articles and scientific-methodical works, such as methodological guides, practical guides, theses and scientific articles.

Expertise / Competences / Technologies / RTD know-how:

- Development of university curriculum.
- Development of Master's programmes.
- Research on the quality of life of people in rural areas.
- Developing the students' qualities of learning.

International cooperation experience:

2010: Tempus, MOLDINCLUD.

2009: Tempus, Life Long Learning in the field of Inclusive Education.

Key words on core competencies:

Creativity; development; integrity; analysis; organization.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions ▪ European Research Council
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Supporting access to international networks for excellent researchers and innovators ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions
Other	<ul style="list-style-type: none"> ▪ Science with and for Society



UNIVERSITY OF THE ACADEMY OF SCIENCES OF MOLDOVA

Organization contact data:

Address	5A, Academiei str., Chisinau, MD-2028, Republic of Moldova
Telephone	(+373-22) 73-74-50
E-mail	international@unasm.asm.md
Website	www.edu.asm.md/md

Title and name of the contact person; position:

Responsible for International Cooperation	Andrian DELINSCHI
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The University of the Academy of Sciences of Moldova (UnASM) is a young university promoting a novel value – “Education through research” with the aim of supporting the development of the knowledge-based society in Moldova. UnASM was established as the primary step of creation of the cluster “University for Education and Research UnivER SCIENCE”; the cluster includes a High School, 18 research institutes of the Academy of Sciences, the Agency for Innovation and Technologic Transfer, and Technological parks and incubators. By these efforts, UnASM aims to become the model of the “Entrepreneurial University”.

Additionally, in UnASM is in the process of creating an educational incubator for offering support to young innovative teams. There are about 200 employed staff at the university.

Expertise / Competences / Technologies / RTD know-how:

- Education and training.
- Event organizing.
- Education methodology elaboration and implementation.
- Development of e-learning platforms.

International cooperation experience:

2010-2012: TEMPUS “Student Active Learning in Science”, Partners: Georgia, Germany, Ireland, Israel, Bulgaria.

2009-2012: TEMPUS Joint Project “Entrepreneurial University as a model for proper managerial interrelation among education, science and innovation development”, partners: Italy, UK (Scotland, Poland, Russia, Kazakhstan).

Bilateral projects:

- 2013-2014: Moldova- Germany, [13.820.15.10 GA](#).
- 2013-2014: Moldova-Romania, [13.820.18.06/RoA](#).
- 2010-2011: Moldova-Belarus, [10.820.04.14BF](#).
- 2010: Moldova-Germany, [10.820.09.09GA](#).

Key words on core competencies:

Education through research; entrepreneurial university; educational incubator; e-learning; open educational resources.

Horizon 2020 relevant call: area of interest

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions ▪ European Research Council
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Supporting access to international networks for excellent researchers and innovators ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions
Other	<ul style="list-style-type: none"> ▪ Science with and for Society



COMRAT STATE UNIVERSITY

Organization contact data:

Address	17, Galatsana str., Comrat, MD-3800, Republic of Moldova
Telephone	(+373-298) 25-16-5
E-mail	oxana_123_oxana@yahoo.com
Website	www.kdu.md/en/

Title and name of the contact person; position:

Responsible for International Cooperation	Oxana OSOTOVA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Comrat State University is a high education institution, accredited at national level, that provides the programmes for the licentiate degree education, master degree education and post graduate education in the sphere of Pedagogic, Philology, Social Sciences, Economy, Agriculture and Law. The university has functional educational cultural resource centres: Americal Resource Center, Centre of German Culture, Centre of Greek Language and Culture, Centre British Culture, Azerbaijan Centre, Centre of Turkish Culture, Centre of Russian Culture, Centre for Continuing Education in Educational Sciences, Centre for Information Technologies, InnoCentre for innovative projects assistance.

Expertise / Competences / Technologies / RTD know-how:

Training the specialists in the sphere of Languages (English, German, Romanian, Gagauzian, Bulgarian), Preschool education, Primary School Education, Social Sciences, Music, Management of the School Educational Process, Economy, Financing, Accounting, Computer Sciences and Mathematics, Law and Jurisdiction, History, Agriculture, Agronomy, Wine making technology, Canning technology, Veterinarian surgery, Chemistry-Biology.

International cooperation experience:

TEMPUS "Integrated university management system: EU experience on NIS countries ground". TEMPUS "Inter-university Start-up centers for students innovations development & promotion". TEMPUS "European Neighbourhood Policy Law and Good Governance".

TEMPUS "Leading and Managing Change in Higher Education".

TEMPUS "Enhancing University Autonomy in Moldova". UNICEF Moldova "Education Centered on Education".

Key words on core competencies:

Pedagogic; philology; economy; agriculture; law.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions ▪ European Research Council
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Supporting access to international networks for excellent researchers and innovators ▪ Teaming of excellent research institutions and low performing RDI regions ▪ Twinning of research institutions
Other	<ul style="list-style-type: none"> ▪ Science with and for Society



Organization contact data:

Address	45, Ion Creanga str., Chisinau, MD-2064, Republic of Moldova
Telephone	(+373-22) 50-11-23
Fax:	(+373-22) 74-37-94
E-mail	gagauzo@inbox.ru ; ince@ince.md
Website	www.ccd.md/en/

Title and name of the contact person; position:

Head of the Centre for Demographic Research	Olga GAGAUZ
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Centre for Demographic Research conducts the fundamental and applicative researches in demography and population studies; develops population projections; provides analytical and informational support to the state institutions for elaborating the strategies and programs in the field of population and development.

Main research directions:

- Population processes and projections.
- Fertility and reproductive behavior.
- Population health and mortality.
- Demographic population ageing.
- Family, marriages and divorces.
- Internal and external migration.
- Policies in the field of population and development.

Number of staff – 18 researchers, including 6 Phd.

Elaboration of the analytical report “Socio-Demographic profile of the RM 20 years beyond the adoption of Cairo Programme of Action”. <http://ccd.md/en/culegeri-de-articole>.

The Moldovan village in sociodemographic perspective, 2012 (Romanian version).

Parental and professional role: balancing opportunities for contemporary woman, 2011(Romanian version) <http://ccd.md/monografii/44-rolul-profesional-rolul-parental>.

Contemporary family between traditional and modern, 2011 (Romanian version) <http://ccd.md/en/monografii/42-familia-contemporan-ntre-tradi-ional-i-modern>.

International cooperation experience:

1. Moldovan - Czech cooperation project “Complex support for development of the population statistics and demography in the Republic of Moldova (2013-2015)”. Partner – Charles University Prague;
2. Institut National d'Etudes Démographiques (INED), France. Participation in “ AXA Project 3. Mortality Divergence and Causes of Death ” (Olga Penina, 2012-2015).
3. Ptoukha Institute for Demography and Social Studies of the National Academy of Sciences of Ukraine. Bilateral project.

Key words on core competencies:

Population; health; family; migration; well-being.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Marie Skłodowska-Curie actions
Societal Challenges	<ul style="list-style-type: none"> ▪ Health, demographic change and wellbeing ▪ Food security, sustainable agriculture and forestry, marine and maritime and inland water research
Other	<ul style="list-style-type: none"> ▪ Science with and for Society



**AGRI-FOOD ECONOMICS AND RURAL DEVELOPMENT DEPARTMENT,
NATIONAL INSTITUTE FOR ECONOMIC RESEARCH**

Organization contact data:

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Telephone	(+373-22) 50-11-23
Fax:	(+373-22) 74-37-94
E-mail	info@ince.md
Website	www.ince.md

Title and name of the contact person; position:

Head of department	Dr. Anatolie IGNAT
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The National Institute for Economic Research (NIER) is a public institution (think-tank) which deals with scientific economic research. The Institute employs 65 researchers, including: 19 PhD. Main beneficiaries are Ministry of Economy, Ministry of Agriculture, Ministry of Social Protection, Academy of Sciences and others. Main activities are related to scientific researches in economy, finance, statistics, reforming of social sphere and integration of the Republic of Moldova in world economic circuit.

Former experience covers a wide variety of applied research on the evolution of economic and social processes in Moldova, insuring a stable economic growth and high living standards.

Expertise / Competences / Technologies / RTD know-how:

Research in the field of agricultural modernization and agri-food value chains development, modernization and transformation of the agricultural sector, feasibility studies in the field of agriculture, agri-food trade, rural development policy, food security, agri-business, risk management.

International cooperation experience:

The Agri-food economics and rural development department from the National Institute for Economic Research (NIER) coordinates and participates in many research national and international projects:

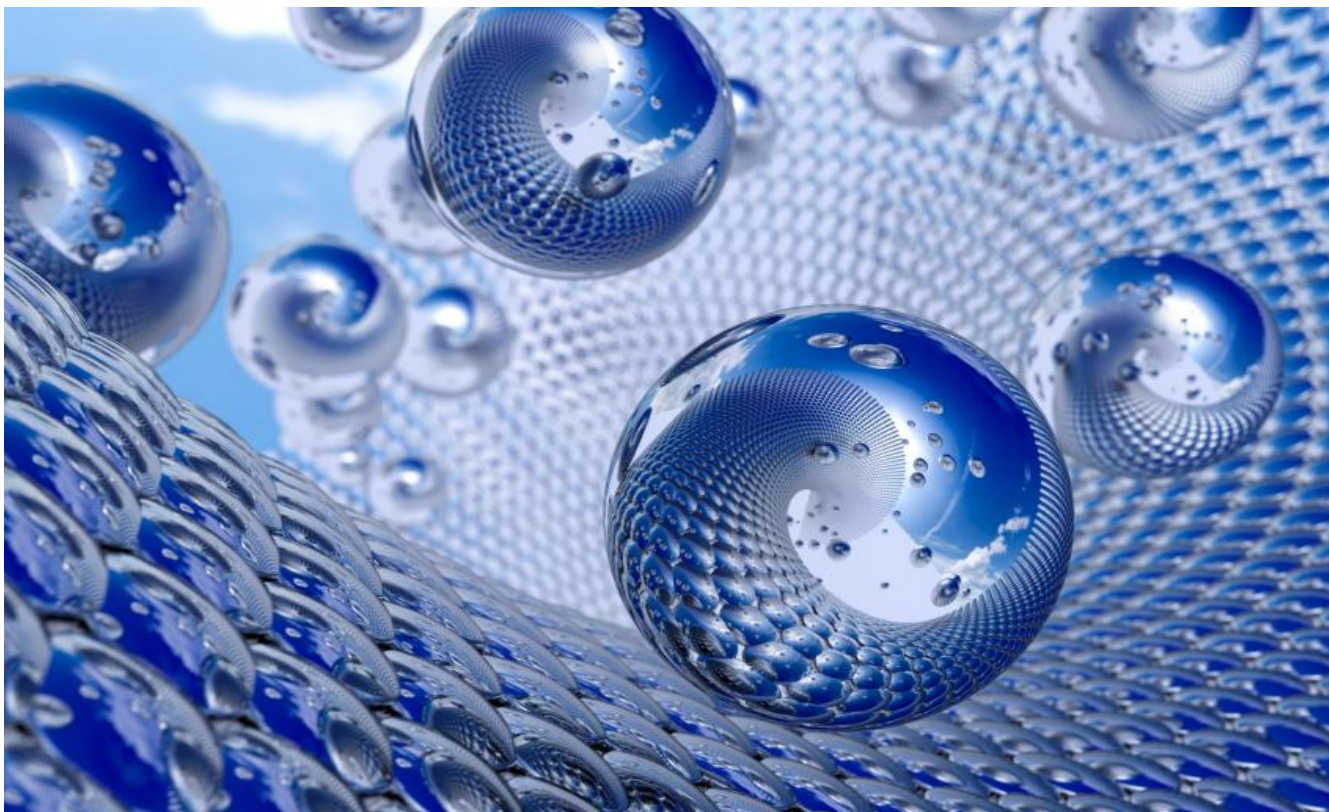
- 2015: Agribusiness association model in V4 countries - a new perspective for Moldova competitiveness funded by International Visegrad Fund.
- 2014–2016: Exploring the potential for agricultural and biomass trade in the CIS. FP7-KBBE-2013-7-single stage.

Key words on core competencies:

Research; agriculture; modernization; rural development; policy.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ■ Marie Skłodowska-Curie actions ■ Research infrastructures
Societal Challenges	<ul style="list-style-type: none"> ■ Food security, sustainable agriculture and forestry, marine and maritime and inland water research



NANOSCIENCES, NANOTECHNOLOGIES, MATERIALS & NEW PRODUCTION TECHNOLOGIES

1. LABORATORY OF COORDINATION CHEMISTRY, INSTITUTE OF CHEMISTRY	131
2. LABORATORY OF SOLID STATE STRUCTURES, INSTITUTE OF ELECTRONIC ENGINEERING AND NANOTECHNOLOGIES	132
3. LABORATORY OF NANOTECHNOLOGIES, INSTITUTE OF ELECTRONIC ENGINEERING AND NANOTECHNOLOGIES	133
4. THE ELECTRONICS OF LOW DIMENSIONAL STRUCTURES LABORATORY, INSTITUTE OF ELECTRONIC ENGINEERING AND NANOTECHNOLOGIES	135
5. CENTER OF PHYSICAL CHEMISTRY AND NANOCOMPOSITES, INSTITUTE OF CHEMISTRY	136



**LABORATORY OF COORDINATION CHEMISTRY,
INSTITUTE OF CHEMISTRY**

Organization contact data:

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Telephone	(+373-22) 72-54-90
Fax	(+373-22) 73-99-54
E-mail	ichem@asm.md; lupascut@gmail.com, ddragancea@gmail.com
Website	www.chem.asm.md

Title and name of the contact person; position:

Director	Dr. hab., prof. Tudor LUPASCU
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Laboratory of Coordination Compounds was founded in 1959 as part of the Institute of Chemistry of the Academy of Sciences of Moldova by the academician Antonie Ablov. On the basis of fundamental concepts and laws, polynuclear dioximates and carboxylates of transition metals were obtained. Based on this research, several elaborations were offered and over 40 of them patented, patents on the themes of catalysts, colorants, stimulators of biological processes, new coordination compounds for obtaining extra-pure metals, ion-selective electrodes, and anticorrosion coating agent.

Expertise / Competences / Technologies / RTD know-how:

Synthetic methods (including template synthesis) of the mononuclear, polynuclear, supramolecular compounds and coordination polymers of the transition metals with organic polyfunctional ligands, based on Schiff bases and metal carboxylates.

Basic research in elucidating physical, chemical, magnetic, catalytic and structural properties of the synthesized compounds.

Applied research of the coordination compounds as stimulators of the vital activity of some microorganisms in the biosynthesis of enzymes, as well as stimulators to raise the productivity and drought resistance of cultivated plants.

International cooperation experience:

2009–2012: SCOPES “Magnetic coordination polymers of the nanosized clusters”.

2006–2008: SCOPES “New Approaches for Building Potential Magnetic Materials: From Isolated Metals Clusters to Molecule-Based Magnets”.

2005–2007: MRDA/CRDF “Synthesis and Investigation of Homo-, Hetero- and Mixed Valence Iron Complexes with Carboxylate and Hydrazine Derivatives Ligands as New Catalysts for Oxygenation of Hydrocarbons”.

2004–2006: INTAS “Polymetallic Complexes as Molecular Nanomagnets and Novel Homogeneous Catalysts”.

Key words on core competencies:

Template synthesis; polynuclear compounds; magnetic properties; biological activity; transition metals.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Future and Emerging Technologies ▪ European Research Council ▪ Marie Skłodowska-Curie actions ▪ Research infrastructures
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Twinning of research institutions ▪ Supporting access to international networks for excellent researchers and innovators ▪ Teaming of excellent research institutions and low performing RDI regions



LABORATORY OF SOLID STATE STRUCTURES, INSTITUTE OF ELECTRONIC ENGINEERING AND NANOTECHNOLOGIES

Organization contact data:

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Fax	(+373-22) 73-99-54
E-mail	anicorici@yahoo.com
Website	www.nano.asm.md/?lang=en

Title and name of the contact person; position:

Researcher	Dr. Andrey NICORICI
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

Laboratory of Solid State Structures is engaged in fundamental and applied research in the **following directions**:

- Physics and technology of semiconductor materials (A4B6 compounds, single crystals, thin films, multilayer structures).
- Impurity states in A4B6 compounds.
- Transport phenomena, photoelectrical properties, optical properties.
- IR sensors.
- Nanomaterials and nanostructures based on semiconductor materials.

Expertise / Competences / Technologies / RTD know-how:

Development and elaboration of matrix photodetectors based on Si-CaF₂-BaF₂-PbSnTe:In operating in IR region of spectrum. Two technological routes of PbTe nanoparticle obtaining were carried out.

International cooperation experience:

- 2006–2008: SNF NIB 7320–110921/1 (SCOPES) “New type of sensitive “continuous” focal plane arrays for Terahertz radiation detection: development of the physical principles of operation”.
- 1997: INTAS project 96–0535 “New low dimensional AIVBVI semiconductor structures with high thermoelectric performance”.
- 2002: INTAS project 01–0184 “Development of p–type High Thermoelectric Performance Quantum–Well Structures”.
- 2009: RER/8/014 (PC7) “Supporting Radiation Synthesis and the Characterization of Nanomaterials for Health Care, Environmental Protection and Clean Energy Applications”.
- 2008–2009: 08.820.06.41RF. “Mechanisms of quenching of remanent photoconductivity in PbSnTe”.
- 2008–2009: 08.820.06.42RF “Numeric modelling of the active influence on convective clouds within dimensions of a single convective cell”.
- 2008–2009: 08.820.05.035.RF “Preparation and properties of mixed polyoxomethalates of Se(IV), Te(IV) and design of functional hybrid materials on their basis”.
- 2006–2007: 06.17CRF “Photoconductivity of narrowgap semiconductors based on lead telluride in the terahertz range”.

Key words on core competencies:

Narrow gap semiconductors; quantum dots; photoconductivity; lead chalcogenides; thermoelectricity.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Future and Emerging Technologies ▪ European Research Council ▪ Marie Skłodowska-Curie actions ▪ Research infrastructures
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Twinning of research institutions ▪ Supporting access to international networks for excellent researchers and innovators ▪ Teaming of excellent research institutions and low performing RDI regions



LABORATORY OF NANOTECHNOLOGIES, INSTITUTE OF ELECTRONIC ENGINEERING AND NANOTECHNOLOGIES

Organization contact data:

Address	3/3, Academiei str., Chisinau, MD-2028, Republic of Moldova
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Fax	(+373-22) 72-70-88
E-mail	nicul@nano.asm.md
Website	www.nano.asm.md/en/main/nanotechnologies

Title and name of the contact person; position:

Head of the Laboratory	Dr. Nicolae LEPORDA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The laboratory for Nanotechnologies is engaged in fundamental and applied research in the **following directions**:

- The development of technologies for large surface manufacturing of nanofilms and semiconductor templates with homogeneous morphology and optical and electrical properties.
- Development of manufacturing technologies of composite materials based on semiconductor and dielectric templates, semiconductor and semimetallic micro and nanowires.
- Optical and electrical characterization of epitaxial structures and composite materials.
- Implementation of templates and compos.

Expertise / Competences / Technologies / RTD know-how:

For the first time, we obtained irradiated porous InP membranes that can be applied in terahertz emitters. Quasi-ordered arrays of pores oriented parallel to the upper surface of the ZnSe semiconductor substrate was obtained for creating metal–dielectric 3D arrays.

International cooperation experience:

2010: "Development of multicomponent filiform nanostructures for thermoelectric applications".

2006–2008: INTAS "Development of THz sources on nanostructured semiconductors and focusing elements on photonic crystals".

2007–2009: STCU "Development of random lasers based on porous semiconductor compounds for photonic applications".

2004–2005: INTAS "Monolayered opalline superlattice: application to nano–technology of 2D ordered array of epitaxial nanodots and metalattice conductors".

2004–2005: INTAS "Ferroelectrics template in nanoporous membranes".

2004–2006: CGP CDRF "Development of optical frequency up–converters and dielectric mirrors based on nanostructured III–V compounds for integrated optoelectronic circuits".

2010–2012: SCOPES "Nanopatterned materials for the improvement of terahertz quantum cascade lasers and laser–driven solid–state terahertz emitters".

2010–2011: BMBF–ASM "Cost–effective technological approach for 2D and 3D nanostructuring of GaN".

2010–2012: RoF ASM–ANCS "Technology for preparing ZnO by the hydrothermal method and nanostructures based on zinc oxide for fabricating optoelectronic devices".

2010–2011: ASM–R. Belarus "Nanoporous materials and structures with a variable gradient of porosity for applications in optics and optoelectronics".

Key words on core competencies:

Nanotechnologies; filiform nanostructures; zinc oxide nanofilms; InP terahertz emitters; thermoelectricity.



Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none">▪ Future and Emerging Technologies▪ European Research Council▪ Marie Skłodowska-Curie actions▪ Research infrastructures
Spreading excellence and widening participation	<ul style="list-style-type: none">▪ Twinning of research institutions▪ Supporting access to international networks for excellent researchers and innovators▪ Teaming of excellent research institutions and low performing RDI regions



THE ELECTRONICS OF LOW DIMENSIONAL STRUCTURES LABORATORY, INSTITUTE OF ELECTRONIC ENGINEERING AND NANOTECHNOLOGIES

Organization contact data:

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Website	www.nano.asm.md/en/main/electronics_of_low_dimensional_structures

Title and name of the contact person; position:

Head of the Laboratory	Acad., dr. hab. Albina NIKOLAEVA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

1. Quantum interference effects in low-dimensional structures for their further applications in spintronics.
2. Semimetal and semiconductor thermoelectric materials based on low-dimensional structures.
3. Lifshits electron topological transitions induced by external action for optimization thermoelectricefficiency of materials based on semimetals and its alloys.
4. Microsized thermoelectric energy converters and magnetoresistive sensors based on semimetal and semiconductor micro and nanowires.

International cooperation experience:

2010–2011: STCU 5050 “Quantum interference effects and thermoelectricity in semimetal nanowire”.

2010–2012: SCOPES “Functional nanowires”, project manager Dr.hab. Nikolaeva A. A.

2004–2006: CRDF project CGP MO–E1–2603–SI–04 “Thermoelectric and Aharonov Bohm oscillations in Bi and its alloys quantum wires”.

2001–2003: CRDF/MRDA, BGP project MP2–3019 “Synthesis of nanostructures based on Bi and Bi–Sb an the investigation of the electronic transport over a wide range of temperatures, magnetic field and deformations”.

2010–2011: Moldova–Ukraine bilateral project “Development of the technology for preparing wire micro and nanocrystals based on semiconductors and semimetals and the study of their magnetic and transport properties under elastic tension for sensitive tenso and thermotransducers”.

2010–2011: Moldova–Ukraine bilateral project “Technology and physicochemical properties of leadtelluride thin films and wires for thermoelectric energy convertors”.

2006–2007: Project CSSDT/FCFR 06.18CRF “Quantum transport in micro– and nanocontacts and in quantum wires of semimetals and superconductors”.

Key words on core competencies:

Low dimensional structures; spintronics; thermoelectricity; topological insulator; nanowire semimetal.

Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none"> ▪ Future and Emerging Technologies ▪ European Research Council ▪ Marie Skłodowska-Curie actions ▪ Research infrastructures
Spreading excellence and widening participation	<ul style="list-style-type: none"> ▪ Twinning of research institutions ▪ Supporting access to international networks for excellent researchers and innovators ▪ Teaming of excellent research institutions and low performing RDI regions



CENTER OF PHYSICAL CHEMISTRY AND NANOCOMPOSITES, INSTITUTE OF CHEMISTRY

Organization contact data:

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Fax	(+373-22) 73-99-54
E-mail	vasilelozan@gmail.com
Website	www.chem.asm.md/node/76

Title and name of the contact person; position:

Head of the Laboratory	Acad., dr. hab. Constantin TURTA
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Organization activity type:

Public body (Research organization).

Brief description of the organization:

The Centre was organized in 2006 and has 65 members of personnel. The center has published 73 scientific articles, 152 presentations. The main purpose of the centre is to perform studies regarding the processes of nanoparticles formation and the elaboration of methods for obtaining nanoparticles necessary in nanoelectronics and elucidation of redox reactions mechanism by kinetic study of these reactions.

The centre will allow researchers from all chemistry related institutions to perform modern investigations of various properties of studied objects. It will contribute to the enhancement of the teaching process and training of highly qualified staff through an education system which comprises master studies, PhD and postdoctoral studies.

Expertise / Competences / Technologies / RTD know-how:

Research on the theory of vibronic interactions; semi-empirical and ab initio calculations of coordination compounds; the study of the structure-activity (chemical, biological, etc.) relationship; the antioxidant properties of new derivatives of dioxyfumaric acid; the methods of synthesis of new homo- and heteronuclear carboxy-clusters of d-d', f-f', d-f, d-s metals with interesting physiologic-active (brevets) and magnetic properties; methods to obtain the nanoparticles of oxides of these metals using as precursors the synthesized complexes; electrochemical analytical methods to determine the concentration of heavy metals in food products; new procedure to improve the sensibility and selectivity of carbon fibre micro-electrodes in toxic metals traces analyses; theoretical method of exchanging of antiferro- to ferromagnetic interaction and vice-versa in dimeric clusters of d or f metals; the technology of treatment of waste of the plant producing distilled, refined Ethanol; optimization of propolis production technology. On the basis of the geometrical interpretation of the Kramers theorem there were determined 8 operators which form the neabelian group of symmetry $G_8(1/2)$ for a single particle with $S = \frac{1}{2}$ spin.

International cooperation experience:

2005-2007: MRDA-CRDF "Preparation of antianemia pharmaceutical products by utilization of coordination compounds of d-elements and Spirulina".

2005-2008: Project SCOPES "Design, synthesis and study of coordination compounds of 3d- and 4f- metals using functionalized macro- and heterocyclic ligands for possible medicinal and therapeutic applications".

2006-2009: Project INTAS "Novel strategies for intermatrix synthesis of highly stable ferromagnetic nanoparticles".

2005-2008: Grant "New Zero-Dimensional Quantum Systems Based on Heteronuclear $\{Mn-M\}_{12}$ and $\{Fe_2MO\}_n$ Clusters with Both Single-Molecule Magnet and Cross-Over properties as Quantum Computing Materials".

2010-2013: PCAP "Photocatalytic Cluster Complexes for Artificial Photosynthesis". PEOPLE, MARIE CURIE ACTIONS, International Research Staff Exchange Scheme Call: **FP7**-People-2009-IRSES. No. 246902.

Key words on core competencies:

Kinetics; complexes; synthesis; theory; mechanisms.



Horizon 2020 relevant call: area of interest:

Excellent Science	<ul style="list-style-type: none">▪ Future and Emerging Technologies▪ European Research Council▪ Marie Skłodowska-Curie actions▪ Research infrastructures
Spreading excellence and widening participation	<ul style="list-style-type: none">▪ Twinning of research institutions▪ Supporting access to international networks for excellent researchers and innovators▪ Teaming of excellent research institutions and low performing RDI regions



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